

GREEN'S FRUIT GROWER

The Oldest Fruit Journal in America

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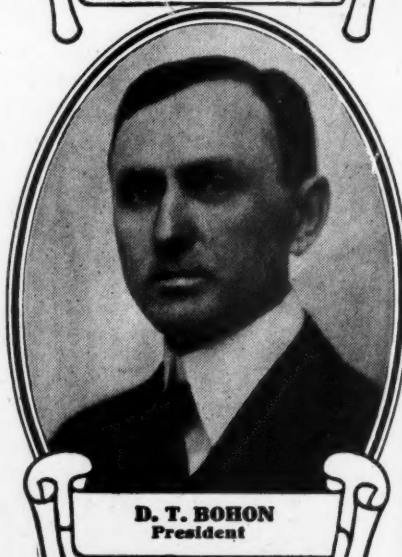
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The Oldest
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in America

GREEN'S FRUIT GROWER

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Thirty Years on Two and a Half Acres

By A. A. EASTMAN



After working as a shoemaker for twenty-eight years, my health began to fail and I found it necessary to get some out-of-door work. My wife suggested small fruit growing as the most suitable line of work to take up especially as we had a large number of children and this work would give them all something to do. The work would be in the open air and sunshine and would mean health and strength for me and better health for the children. We finally found in the outskirts of Dexter village, Maine, a house and stable near the edge of a woods, and about one-quarter of an acre cleared. I bought the place with some of the adjoining woods and immediately started clearing more land. The new land secured by cutting the trees proved to be wet and quite stony. The soil was black and looked as if it might be fertile if it could be drained. So I put in over a mile of under-drain which took all the surface water down out of the way and left the soil dry and full of rich plant food. The fact that this land had not been cropped before proved a God-send to me since it enabled me to grow several crops without the expense of fertilizing. It was a number of years before I had to use any fertilizers on the land. I began by setting out strawberry plants, currants, gooseberries, raspberries, rhubarb and blueberries. Later I set out plum, pear, cherry and apple trees and all did well on this virgin soil. We have but two and one-half acres in the place and every available spot is used for growing some of the fruits mentioned above. We have found blueberries very profitable and easily grown. The bushes grow wild in many places and we have found that they can be transplanted in September and will produce fruit in the season. Be sure to cut the tops back before you transplant the bushes.

Cultivation

I do not do any hoeing since it is very hard work and the same results can be accomplished in other ways. I buy lots of straw, swale hay, forest leaves, and shoddy that comes from the woolen mills of our town. This mulch is spread quite thickly around the bushes and trees and between the rows of strawberries, which smothers the weeds, holds the moisture and keeps the fruit clean while growing and when being picked. When we see any weeds growing up through the mulch, we lift the mulch with a fork, bend the weed down, and cover it with the mulch. In this way we save a great deal of hard work and the cost is much less than it would be if we tried to hoe and cultivate continuously.

Spraying

We use dry powdered Arsenate of Lead or Paris Green to combat the currant worms which we have found are rather bothersome on currants and gooseberries. For a time we suffered quite a loss on our plum trees from the curculio which is a black bug that stings the plum causing it to shrivel and drop. Spraying had no effect and we found that the only way to control this pest was by jarring the trees in the early morning and catching all the curculio

on a sheet as they fell to the ground. The curculio seems to be a very timid insect and when it feels the jarring of the tree it curls up and falls to the ground. The sheet is then picked up and the curculio are either fed to the chickens or burned up. Our plums have also been troubled with Black Knot and we find that the knife is the only sure remedy. When we find the Black Knots growing in the summer time we cut them out immediately since it is too late if they are allowed to go until fall. At that time they begin to turn white and the spores fly to other trees and in a very short time will infect an entire orchard. Our rule is therefore to cut out all the Black Knots before they commence to turn white and we find that this controls the disease.

Harvesting the Small Fruits

Our picking season starts about July 1st, with strawberries, and is followed by cherries, currants, gooseberries and raspberries in the order mentioned. We always buy our crates and baskets ahead of time and have them on

and for the past few years I have shipped practically everything to Boston. I find that I can do more business at less expense in this way than was possible thru peddling. Peddling is liable to be rather costly unless some one in the family takes to the work and is especially suited to it. Profit can be made through this method of marketing, however, if someone can be found who really likes the work. My raspberries usually bring from \$.25 to \$.30 per quart in Boston which is much more than I would be able to get at the local market. One time a few years ago, I shipped a thirty-two quart crate to Boston and received enough money for it to buy two barrels of flour. By being very careful in packing and putting the berries up in first class shape, we have been able to secure fancy prices at nearly all times. In addition to shipping to Boston, I have been able to sell a large amount in my own dooryard. My first crop is rhubarb which comes very early in the spring. When this is ready for sale I put a card twelve by fifteen inches on a post by the roadside which reads, "Rhubarb for Sale," and I have found that

this sign brings me considerable trade especially since more people have automobiles. The rhubarb is very inexpensive to produce and in addition to the profit it brings, helps in the later sales of other fruits by attracting the people early in the season when they are out looking for something fresh and green to eat. When the rhubarb season is over, I put up another sign, "Berries for Sale," and follow that with one, "Plums for Sale," and on through the season, changing the sign according to the fruit we have on hand. Nearly everyone who stops to buy one thing, either makes additional purchases at the time or later come back for something else. As a side line to my fruit growing, I have raised considerable nursery stock and find that there is a good profit in it.

Vegetables as a Side Line

In addition to raising small fruits, we raise sweet corn, green peas, string beans, celery and cabbage for sale. We sell all of these except the cabbage as soon as they are ready to harvest. We find that cabbage is usually low in price in the fall and we therefore store it in the cellar where it is dry and will not freeze. All the outside leaves and the stump are cut off and the head is wrapped in old paper as nearly air tight as possible. We seldom lose much of the cabbage by storing it in this way and always get a good price for it in the spring.

After having grown small fruits for a living for more than thirty years, I still believe it to be the most pleasant and profitable work that can be done on a farm. It will not run alone and pay a big profit, nor can the business be learned in a single season. But, by the use of a little common sense, giving the fruit clean culture and doing all work at the right time, success is sure. Our children have helped greatly in the success of our little place and they are planning to be fruit growers themselves. We found that it was not wise to give them too much to do and so tire them of fruit culture. They have always done their share but we have seen to it that they had some play time to themselves and also that they shared in the profits of the business. This has enabled them to see that there is something ahead for them if they become fruit growers.



Some Days We Have as High as Seventy Pickers in the Field

hand ready for use when the fruit is ripe. Most of our picking is done by school children and old people. Some days we have as high as seventy pickers in the field since we have found that it pays to get the fruit picked in the shortest possible time after it has ripened. Our largest days picking of gooseberries was fifty bushels. We pay one and one-half cents per quart for currants and gooseberries and two cents for raspberries. One old lady picked over three bushels of gooseberries in eight hours and another picker was able to pick one hundred and four quarts in seven hours.

The Market

When we started growing fruits about thirty years ago, I used to peddle all we had from a basket on my arm. Soon, however, business grew so that I got a horse and wagon and peddled from that for a number of years but finally the business grew to a point where I could no longer do this and found it necessary to try some other method. As a result I began shipping to larger markets

\$52.10 Net from One-Tenth Acre Strawberries

By H. L. SPOONER

To make \$52.10 from a tenth of an acre of strawberries is pretty good for a boy of fifteen, yet that is what his patch netted the writer several years ago.

I had always had a hankering for growing small fruit, but my father thought we needed all our garden room, which was small, for growing vegetables. The fall that I became fifteen I bought a lot of my own on the installment plan. That winter I sent for several nursery catalogs and literally devoured their contents. The descriptions were so alluring that I could not resist (I didn't want to anyway)



"I Put the Top Layer in Rows"

and I determined to set out 500 plants. The variety to set was my next problem. I wrestled with this for days as each variety seemed to have some advantages over the others. At last I decided on Stevens Late Champion, which was a comparatively new variety. The reason I chose this variety was on account of its size and lateness, as I

wanted a variety whose season of fruiting was later than the other varieties grown in our vicinity.

Having decided on the variety, the next thing was to figure how to get the money to pay for the plants. They would cost \$2.50 for 500, plus the express. Just at this time a farmer who grew berries for the market learned of my aspiration and when I told him I expected to order the plants from the nursery said, "What's the use of doin' that? Come down to the farm an' I'll give you all you can carry home an' they won't cost you a cent."

"I thank you," I said, "but I have read that plants grown from runners of bearing plants are not so good as those from the nursery where the mother plants are not allowed to fruit. Besides, the nursery plants are not so likely to be diseased as they must stand state inspection."

"Oh, you're goin' to be a book farmer, eh? Just listen to me. All that talk's just bunk to sell plants."

"Well," I said, "that may be true, but I'm goin' to give it a trial anyway."

"You're foolish," he replied, "but go ahead. My offer holds good for next year and I'll bet a penny I'll see you comin' to me for plants yet."

"Perhaps I will," I answered, "I know I don't know it all, and if I make a mistake I'll acknowledge it."

I borrowed the money and sent the order in early for the plants, promising to pay the lender when I sold cowslip greens enough. I cornered the local market that year in cowslip greens (that is another story) and made enough to pay for the plants, the preparing of the ground, and two loads of manure.

The land was a good black loam but it had been worked several years without fertilizing, so I considered two loads of manure not too much. The lot was plowed to a depth of eight inches and harrowed four times, making it in as fine condition as possible.

The plants arrived in nice condition and I at once unpacked them and heeled them in in moist soil. I opened only one bunch of twenty-five plants at a time and carried them in a basket one end of which was covered to protect them from the sun and wind. Before untying the bunches, with a pair of shears I cut the roots off about a third of their length. A neighbor, seeing me do this, predicted that I would kill them.

"They'll never even start to grow," he said.

They were set in rows 3½ feet apart and approximately 28 inches apart in the rows. Soon after setting, I began cultivation, keeping it up all summer at intervals of a week and using a hand cultivator. Each two weeks I sprayed them with a small compressed air sprayer. I used Bordeaux mixture for this, making it as follows: I put four pounds of lime in a crock and poured on four gallons of water; in another crock I dissolved four pounds of blue-stone in four gallons of water; I kept these solutions separate until ready to use, then took equal quantities of the two and added four times their combined amount of water.

One day while spraying, my neighbor who predicted my failure came over.

"I see you have to water your plants," he said. "Now do you remember what I told you? If you hadn't cut off them roots you wouldn't have to water 'em."

"I'm not waterin' 'em," I replied. "I'm spraying 'em."

"What's that fer? I don't see any bugs."

"It's to prevent disease. I believe it's easier to prevent disease than to cure it after it's got a hold."

"Some more of your book nonsense, eh?"

"You can call it nonsense if you wish, but it's really common sense. If you engage a doctor for a sick person, you can't expect to get beneficial results from his treatment unless you follow his directions. That's what I'm doin' with my plants. If I follow directions and then fail, it won't be my fault. But if I don't follow them and fail I have no one to blame but myself."

"I hadn't thought of lookin' at it that way an' maybe you're right. I hope you do well anyway."

"Thank you. I'll do my best."

I think my philosophy was good, as when my plants were ready to go under winter mulching they were as green and fresh as in the spring, while most of the other patches in the neighborhood were red and spotted with disease.

All the blossoms that formed the first year I picked off in order that all the strength of the plants might go to forming a big plant for the next year. I allowed each plant to make four runners, which were placed around the mother plants in star shape. All other runners were treated as weeds and cut out. I usually left the first four runners that formed, but if any of these were spindling I cut them off and waited for stronger ones. When the runners were all formed, the rows looked like this:

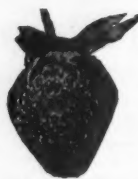
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There were thus three rows in one, the full rows being about a foot wide.

When fall came, the plants covered the entire foot-wide space. I covered them lightly with rye straw, which was

Fancy Strawberries



FROM

FOUNTAIN KNOLL GARDENS

H. L. SPOONER, Prop.

FREEMONT,

MICH.

removed in the spring from directly over the plants and allowed to lay between the rows, forming a cushion for the fruit and keeping the weeds down and the ground moist.

Blossoming time produced a sight that was good to see. And, later, when the ripe fruit appeared, none of the pictures in my nursery catalogs surpassed them in beauty.

I graded the fruit in the field, using four-quart carriers for picking. Nothing but first class fruit was put in the boxes for sale as table fruit. All under-ripe, over-ripe, and misshapen berries were placed in separate boxes and sold for canning purposes. I put the top layer in rows with the stems down, thus making a very attractive package. I had had some nice two-color labels printed, as shown by the accompanying illustration, the berry being in red and the wording in black. I pasted one of these on each box. I made arrangements with a local grocer catering to the highest class of trade to handle the berries on commission. I set the retail price at 15 cents a box and gave the grocer 1½ cents a box for handling. I agreed to take back any unsold.

The berries were placed on display beside others whose price was eight cents. It was surprising to see how customers picked up the 15-cent berries in preference to the eight-cent ones. 464 boxes were sold in this way for \$69.60. I could easily have sold ten times this amount. Many times the morning picking would be exhausted in less than an hour from delivery time and the grocer's wagon be back beg-

ging for more. The label proved a good advertising stunt and when customers were too late to get them at the store, they would call up on the 'phone and ask for berries. I sold no berries from the field, however, having promised the grocer my entire crop. It pays to be strictly honest in this way. It was the grocer's display that enabled me to place the berries on the market quickly, and he was entitled to his profit on them. The remaining 48 quarts were sold for canning at \$1.50 a crate.

When the crop was off, I summed up my expense as follows:

Plowing and harrowing.....	\$2.00
500 plants.....	2.50
Manure.....	1.00
Spraying material.....	.30
Straw.....	4.00
32 crates at 12c.....	3.84
464 labels at \$3 per M.....	1.40
Com. 464 boxes at 1½c.....	6.96

Total.....\$22.00

As I did the labor in spare time and it was hard to estimate, it is not included in the expense. The berries sold for a total of \$74.10, leaving a net profit of \$52.10 for a tenth of an acre, or at the rate of \$521 an acre.

Value of Cover Crops

The presence of humus in the soil has a very important bearing upon its physical condition. When the supply of organic matter becomes low, our clay soils are stiff and difficult to work, and they puddle and bake easily. Those rich in humus have better drainage, can be plowed earlier, remain in plowed condition longer, and in every way are easier to handle.

Only in one way do cover crops add to the total amount of any one plant food element in the soil, and that is through the nitrogen-fixing activities of the bacteria which are usually found on the roots of the legumes. When non-leguminous cover crops are used, the available food supply may be increased, but not the total amount of the food elements.

The conservation of plant food is another valuable function of cover crops. Every spring our rivers and creeks carry down to the lowlands and the lake bottoms immense deposits of silt which the rains have washed from the fields. These minute particles of soil are the ones which are most readily acted upon by the acid soil water, and hence their loss from our fields is a serious loss of plant food. Nothing checks this soil washing in the orchards so effectively as the mat of rootlets supplied by a good cover crop. The breaking down of soil particles, with the resulting formation of soluble plant food, goes on in the fall and spring when the fruit crops are in a dormant condition. By using cover crops which remain alive through the winter, much of this plant food is utilized by them and thus prevented from washing away in the drainage water. This plant food then becomes available to the fruit crops when the corn crop decays.

Our fruit growers and farmers with family orchards are finding that to grow good, nice fruit requires attention to trees at the proper time of the season. Nice fruit can only be grown by eternal vigilance. It is interesting as well as profitable to the farmer to study this subject. There is an ample supply of printed information to be had by every one who desires to study this subject.

Two persons will not be friends long if they cannot forgive each other's little failings.

Did it ever occur to you that now is the future you longed for several years ago?

I consider it the best part of an education to have been born and brought up in the country.—A. B. Alcott



The Standard Berry Box

By M. R. CONOVER

Berry boxes are required to be even full in the market. The legal specifications of the standard berry box, quart size, are the same in New York, New Jersey and Pennsylvania, but other rules and regulations, and the penalties for violations vary in the different states.

Of course, for the straightforward business producer, penalties have no terrors but the careless use of packages may lead even honest men into trouble.

The New York State laws with regard to food packages are strict and explicit as to the sizes of berry boxes. For the sale of strawberries, raspberries, blackberries, gooseberries, plums, currants and other small fruits the quart and its multiples are used. The quart when even full must contain 67 2-10 cubic inches; the pint, 33 6-10 cubic inches; and the half-pint, 16 8-10 cubic inches. Multiples of a quart must contain like multiples of 67 2-10 cubic inches.

Under the New York State laws, berries cannot be sold in packages of less than the standard size although a variation of not more than 7% is allowed. Multiples of a quart must be marked in bold, broad-faced letters, at least 1/2 an inch in height and given in terms of qts, dry pints, half pints, or in terms of net weight.

The penalty for violation of the law is not less than \$5 nor more than \$25 for each sale.

Where merchants repack farm produce, they must obliterate the name of the shipper. Penalty for this neglect is \$50. This provision protects the producer from unfair conditions arising from a second packing.

The Pennsylvania State laws do not require the marking or branding of quart berry boxes. The quart box must contain 67 1-5 cubic inches. All berry boxes not of that size must be conspicuously tagged or branded or otherwise marked on the outside indicating the quantity in terms of weight, measure or numerical count. The fine for violating the law is one dollar and costs for each container for the first offense; not less than \$5 nor more than \$10 for the second offense and for any subsequent offense not less than \$10 nor more than \$50.

The New Jersey law with reference to the sale of berries and other fruits, etc., provides that "no person shall sell or deliver, or have in his possession with intent to sell or deliver any fruits, berries or vegetables contained in any basket, box or other container, unless such basket, box or other container, shall be of capacity, in standard dry measure of 32, 20, 16, 8, 4 or 2 qts. or 1 qt. or 1 pt." with the exception of cranberries which may be sold in standard crates or bbls. Furthermore, each package shall have marked on the outside by the manufacturer in plain English letters or Arabic numerals the exact capacity and the name and address of the manufacturer or the sign or symbol in lieu thereof furnished him by the superintendent of weights and measures.

The penalty for violation is not less than \$5 nor more than \$100 for each offense.

While the requirements given for these three states are probably representative of the whole country, it might be well to secure a copy of the law for your own state from your State Department of Agriculture.

Treatment for Apple Blotch

Apple Blotch is a disease which occurs on the twigs, the foliage and the fruit. Infections may begin as early as three weeks after blooming and continue well into the summer. Usually, however, infections occur mostly from four to six weeks after blooming. It is necessary that the first spraying be on the trees by four weeks after the blooming. Bordeaux mixture is the only mixture used thus far that effects a satisfactory control, and in those orchards where blotch is known to be present to a seriously damaging extent it is the only mixture on which it is safe to rely. In cases of moderate infection a single spraying

may be sufficient, but usually more than one is necessary.

A dependable schedule of treatment consisting of three applications is given by F. W. Faurot, of the University of Missouri.

First: Three to four weeks after blossoms fall, Bordeaux mixture (6 lbs. blue stone, 8 lbs. lime, 100 gallons water) to which is added 4 lbs. arsenate of lead paste for codling moth. A stronger Bordeaux might be more efficient but the liability to injury would be correspondingly greater.

Second: Five to six weeks after blossoms fall Bordeaux mixture, same as for first application.

Third: Nine to ten weeks after blossoms fall, Bordeaux mixture (8 lbs. blue stone, 8 lbs. lime, 100 gallons water) to which is added 4 or 5 lbs. arsenate of lead paste for the first spraying for second brood of codling moth.

Well Balanced Farmers and Fruit Growers

By J. S. UNDERWOOD, III.

One of the things which every farmer and fruit grower should jealously seek to preserve is his outlook upon the larger phases of life and business. To the goal of success nothing is of greater importance. Nothing is more easily lost under the binding routine of daily duty.

How often do we see well educated men who have returned to the land with broad conceptions of life and business gradually narrowing in their views and verging toward crotchiness of temper through allowing themselves to become wearisomely engrossed with the details of their personal affairs.

Because the business of fruit growing and farming demands a very considerable degree of close personal application the thrifty ambitious man is liable to overdo it in that direction, keeping his face too close to the grindstone to preserve a proper perspective. Thus he misses some of the larger opportunities opening to him who is wide awake. His eyes become fixed upon the little profits and he finds himself slaving away for mere wages, sticking closer and ever closer to the old ways distrusting the new and gradually losing pace in the march of progress.

I would not for a moment be understood as despising the small profits or minimizing the value of economy but enterprise sometimes makes dollars where thrift saves dimes. The two should always go together and happy is the man who preserves a judicious balance.

Two suggestions based upon my personal experience are here offered to those who would preserve or widen their outlook. First, work limited hours, plan systematically and eat and sleep at regular hours. Second, utilize as much spare time as possible in reading high class periodicals dealing with your occupation. It is all the better if some of the reading matter does not bear too directly upon your own individual conditions.

Let us reach out and inform ourselves concerning fruit growing and farming in far flung longitudes and latitudes. Breadth of view comes with scope of knowledge. Narrow zones of information restrict one's interest. Inspiration comes largely from outside stimulus. The widely traveled man, other things being equal, is the best informed, the most receptive to new ideas and usually the most intelligently appreciative of that which he possesses. Wide reading is like wide travel. Let us instruct ourselves broadly, drawing knowledge and inspiration from far as well as near. Let us acquire a concept of our industry in its large aspects. Such is the habit of big men everywhere and in farming and fruit growing as in other vocations big men achieve where others plod.

Birds are the friends of the farmer and the good they do pays a thousand fold for the few fruits they may help themselves to. There is always enough for all on the farm.

Birds on the Farm

We do not always know who are our friends, and perhaps we often do not take sufficient thought to make ourselves acquainted with the real characters of the persons and things with which we come in daily contact. I am sure it is so with our dealings with the birds. Even the most innocent-minded of us are apt to fall into the error of thinking that many of them are our enemies rather than our friends. The fruit growers, of all persons, has the most reason for knowing all that he can know about the habits of the birds, both good and bad. Some of them have keen appetites for fruit and at times do considerable damage to crops, as many of us well know, but there is another side to the question of their harm or usefulness.

In the consideration of birds as related to horticulture and agriculture too, we may very properly count the European sparrow as wholly on the side of the evil doers. There seems to be scarcely a thing to say in its favor. The misguided persons who imported this pest from across the ocean did America an unintentional wrong that can never be righted. All that we can do now is to kill or drive away from our premises as many of these ugly, noisy, filthy and vicious intruders as is possible. None of our native birds are its equal in meanness. The crow, blue jay and even the worst of the hawks have redeeming features. The English sparrow has none.

Nearly all our wild birds feed on insects; and it is useless to discuss the damage done by insects to crops of all kinds, for that is too well known. Aside from a few beneficial insects which they devour, everyone they take is so many less to prey upon the fruits and other things we grow. Were it not for the birds the world would be so overrun with insect enemies of hundreds of species that it would be impossible to keep in check. Anyone who has watched a pair of parent birds feeding their young knows that within a single hour they devour a great number of worms, bugs and other pests of the orchard, garden and field. I have often watched them at this useful work. They have sharp eyes and can see a worm on a leaf where the human eye could not detect it. They do not stop at picking up such insects as they can easily see but they scratch, dig and even bore for them. Whoever has noticed robins hopping over the ground could scarcely fail to see how they stop every few feet and look—turn over a leaf or some other little object—pick up an insect hid beneath, and when enough is secured, fly away to their mates or nests of young and come back soon for more. The little nut hatch runs up and down and all over the bodies of the trees, looking into every crevice and under every scale of bark to find any form of insect life that may be there. The woodpeckers dig holes with their chisel-like beaks where their instincts tell them tree borers lie hidden and with their long, pointed and barbed tongues pull them out.

To the farmer and fruit grower there are abundant reasons for the presence and protection of our wild birds. They are our friends and allies. Without them we could not succeed nearly as well as we do in our business. Hence we ought to do everything within our power to prevent their destruction.

The substantial things of life now count for more in thought and in value than the froth and frivol. What a tremendous asset it would be to America if the agricultural interests of this country were organized as those of Denmark and Germany. America has the great advantage of a mammoth population, home market and foreign markets, a soil not yet worn out, and transportation lines better than those of any country. Thru carelessness the land is not made to produce what it is willing and ready to produce. The wheat yield of America is not fifty per cent of that of Germany or England or France. The cotton crop of the South can be increased enormously without increasing the acreage.



Farm Production More Important This Date Than Ever Before

By C. A. Green

Universal war may attract many of those now engaged in fruit growing and farming to join the army or navy. Such being the case, the logical consequence must be a scarcity of labor for agriculturists. Those capable but who have scruples about joining the army or those partially incapable should be glad to assist the cause by efficient work on farms. It is questionable whether recruiting soldiers from farm helpers should be encouraged at present if at all. The question arising is what steps can be taken to keep up the usual production of farm crops or to increase them. We will need the products of our farms more largely than usual in the years to come, for our crops will be absolutely necessary for the welfare of foreign nations who might suffer starvation if the United States could not supply them freely as in the past. Last year was a season of poor crops the world over. The season was most unfavorable for the production of fruits and other farm crops.

In considering what the landowner may do to make his farm productive I will call attention to the purchase of improved farm implements. There never was a time when farm tractors and the best farm machinery of every kind and new machinery in place of partly worn out machines could be so profitably purchased as at the present hour. Farm tractors are still new to many and are not in general use on American farms, but I advise those who can afford it or have the money to invest to buy a tractor, which can be run at all hours of the day or night and will give greater service than can be secured with horses.

Next I would advise a more liberal use of commercial fertilizers and more considerate preservation and application of stable manures, ashes and every form of fertilizers that can be secured, also the purchase of stable manures. Millions of dollars are wasted every year by the heating of stable manures, which should be drawn out and scattered upon the fields daily. Further waste comes from leachings of barnyards.

The greater economy in farm work may result in a large increase of farm products.

There are many who do not realize that an hour's time lost by a laborer is practically the same as throwing money from the bridge into the river. It is an actual waste. There are men who can achieve much more from the labor of men than can others. This happy result is secured by good management, thought and consideration.

I hear of many farmers who are planning to allow a larger part of their land than ordinary to grass or meadow. While hay will be in demand perhaps more than usual, if many fail to plow the usual acreage and devote more land to hay, hay will be cheaper and the tendency will be to increase the price of grain. What one farmer does would seem to be insignificant, but if many farmers follow a certain course of procedure the result is startling.

Women and children can help greatly in taking the place of workmen on the farm and in the orchard and berry fields. In European countries a large part of farm work has been done by women in times of peace. In times of war still greater assistance is offered by women. It will be no great hardship for children to be employed. The strain upon them will be nothing like that of work in factories. Arrangements might be made with the public schools whereby the children and even teachers might be helpful in fruit harvesting and in many other forms of farm work. It is distressing to learn that men now confined in prisons and reformatories cannot be taken to the farms and set at work under proper supervision. Almshouses (poorhouses) furnish many helpers for the farmer, but their work is often inefficient as many of them are lacking in health and strength, but they can help a little. The tramps of the country, of which there are legions, will no longer have an excuse that they cannot find work. It may become expedient to arrest them and compel them to work if they will not do so of their own free will.

The planting of vacant city or village lots and little used parts of parks or golf courses is suggested as means of increasing the supply of food.

President Wilson's Appeal to Farmers—More Efficiency Needed

"It is evident to every thinking man that our industries, on the farms, in the shipyards, in the mines, in the factories, must be made more prolific and more efficient than ever and that they must be more economically managed and better adapted to the particular requirements of our task than they have been; and what I want to say is that the men and the women who devote their thought and their energy to these things will be serving the country and conducting the fight for peace and freedom just as truly and just as effectively as the men on the battlefield or in the trenches. The industrial forces of the country, men and women alike, will be a great international service army—a notable and honored host engaged in the service of the nation and the world, the efficient friends and saviors of free men everywhere. Thousands, nay hundreds of thousands of men otherwise liable to military service will of right and of necessity be excused from that service and assigned to the fundamental, sustaining work of the fields and factories and mines, and they will be as much part of the great patriotic forces of the nation as the men under fire.

"I take the liberty, therefore, of addressing this word to the farmers of the country and to all who work on the farms. The supreme need of our own nation and of the nations with which we are co-operating is an abundance of supplies, and especially of foodstuffs. The importance of an adequate food supply, especially for the present year, is superlative. Without abundant food, alike for the armies and the peoples now at war, the whole great enterprise upon which we have embarked will break down and fail. The world's food reserves are low. Not only during the present emergency, but for some time after peace shall have come both our own people and a large proportion of the people of Europe must rely upon the harvests in America.

Fate of Nation Rests on Farmers

"Upon the farmers of this country, therefore, in large measure rests the fate of the war and the fate of the nation. May the nation not count upon them to omit no step that will increase the production of their land or that will bring about the most effectual co-operation in the sale and distribution of their products? The time is short. It is of the most imperative importance that everything possible be done and done immediately to make sure of large harvests. I call upon young men and old alike and upon the able-bodied boys of the land to accept and act upon this duty—to turn in hosts to the farms and make certain that no pains and no labor is lacking in this matter.—Woodrow Wilson, President.

How to Test Seed

Most of the commoner seeds, including the cereals, clover, and alfalfa, may be tested for germination easily and quickly on the farm. Take a fair sample of the seed to be planted and count 100 seeds. Fold a newspaper so there will be a dozen thicknesses, six by twelve inches; soak it in water, squeeze out so it will not drip and lay on a dinner plate. Place the seeds on the paper so they will not touch each other and fold the wet paper over the top to cover them. Turn another dinner plate over this and keep at room temperature for four or five days. Examine the seeds and count out those which have germinated and if there are still seeds which have neither germinated nor decayed, wet the paper again if necessary and set away for two or three days more, and again count those which have germinated. This shows the proportion of live seed and the proper rate of seeding is determined accordingly.

SEED POTATO TREATMENT

Must Be Disinfected. Important Facts

The disinfection of seed potatoes by soaking in corrosive sublimate or in formaldehyde is recommended by the U. S. Department of Agriculture as a measure that will tend to improve the germination and lessen the danger of scab.

Such treatment is, on the whole, profitable, but has several limitations which should be clearly recognized to prevent disappointment. The object of disinfecting seed potatoes is to destroy the germs of scab and other surface parasites which might otherwise be planted with the seed and infect the new crop. Only surface infections are reached by this method. It is only partially effective against deep pits of common scab. Neither corrosive sublimate nor formaldehyde, as ordinarily used, will destroy silver scurf. Either one will kill surface infections of blackleg, but neither will reach the internal infections common in tubers from blackleg hills. Neither Fusarium wilt nor late blight infection in potato tubers can be reached by any seed treatment, nor can any of the non-parasitic diseases of potatoes, such as mosaic, leaf roll, and curly dwarf, thus be prevented. See Farmers' Bulletin 544 for descriptions of these troubles.

Above treatment will not be effective if the soil where the potatoes are to be planted is already full of disease.

Acid phosphate and sulphate of ammonia tend to diminish scab. Rhizoctonia occurs to some extent in nearly all soils, but appears to attack potatoes most when the conditions are unfavorable to the best development of the potato plant. Bring the land to an ideal state of tilth to minimize loss from Rhizoctonia.

Powdery scab is worst on cold, wet, or poorly drained soils. Blackleg, on the other hand, is carried by infected seed. No potatoes showing a deep brown discoloration at the stem end should be planted.

Sulphur tends to prevent common scab. It is not a substitute for corrosive sublimate or formaldehyde, but is a good drier for cut seed.

How to Disinfect Seed

It is considered better to treat potatoes before they are cut into seed, especially if the cut seed is to be very small. Put into the solution all the potatoes it will cover and keep the batch covered by the solution for the period named under the treatment being used.

The formaldehyde treatment consists in soaking the potatoes, before cutting, for two hours in a solution made by adding 1 pint of formaldehyde to 30 gallons of water. The solution can be used repeatedly. The gas treatment is no longer recommended.

The corrosive sublimate treatment is more effective than formaldehyde, particularly against Rhizoctonia, or russet scab, and powdery scab. Corrosive sublimate is used at the rate of 1-1,000 for one and one-half to two hours. Dissolve 2 ounces of the salt in hot water and dilute to 15 gallons. This is a deadly poison. Use with great care. It must be kept in wood, porcelain, or glass vessels, as it attacks metal. Seed so treated must not be used in the household or left where animals can reach it.

In using the corrosive sublimate dip it has been found that the solution becomes weaker each time it is used. The degree to which the disinfectant is taken out of the solution varies according to the amount of dirt on the potatoes, the character of the water, and the kind of container. For practical purposes it will be sufficient to add 1 ounce of dissolved corrosive sublimate to each 30 gallons of solution after each batch of potatoes has been treated. When this has been done four times, throw away the old solution and prepare new solution.

To treat large quantities of potatoes, set several barrels on a slightly elevated platform. Fit a plug in a hole in the bottom of each barrel, fill with potatoes, cover with solution, let stand two hours, draw off solution, and pour into another barrel. Increase the number of barrels in proportion to the quantity to be treated. Another method is to use a large wooden vat or trough, into which the potatoes in sacks are lowered by a rope and pulley and later hauled out, drained, and dried on slatted racks.

Seed potatoes may be treated several weeks before planting, provided they are not reinfected by storing in old containers or storage bins.

Sprouted potatoes are injured by treatment, but will throw out new sprouts. In general, however, potatoes will not be injured by following the above directions. Many growers believe germination is improved by treatment.

Condition of Fruit in Missouri

Fruit—Correspondents place the outlook for a fruit crop at 69 per cent. Apparently the peach crop will be almost an entire failure except in the Southeast section where present condition is 40 per cent.

Live Stock—Meat animals of all kinds are scarce, liquidation having been carried to the limit. Rather than buy feed at what seemed prohibitive prices, farmers have sold much of their stock. While this has brought about a serious shortage, it has resulted in raising still higher the quality of Missouri live stock. The scrub and the "star boarder" have been sold, generally at profitable prices, and more attention is being given to the better animals. Number of hogs now on feed as compared with one year ago is estimated at but 55 per cent; number of cattle, 56 per cent.

Success

He has achieved success who has lived well, laughed often and loved much; who has gained the respect of intelligent men and the love of little children; who has filled his niche and accomplished his task; who has left the world better than he found it, whether by an improved poppy, a perfect poem or a rescued soul; who has never lacked appreciation of earth's beauty or failed to express it; who has looked for the best in others and given the best he had; whose life has been an inspiration; whose memory is a benediction.—Mrs. A. J. Stanley, in Modern Methods.

The City Girl

A gay, frivolous but not vicious young girl became acquainted with a farmer and married him. This city girl had worked in offices. She knew nothing of cooking or of other household duties. You can imagine the serious experience that the farmer had with an incompetent wife. Though he loved her dearly and admired her grace and beauty, he found it difficult to eat her biscuit, her bread, her cookies or her pies. Those who are skilled in writing stories of real life would dwell upon the courtship of this farmer, upon his successful rivalry over other suitors for the girl's hand, and over impediments which story tellers are never at a loss to place between young people matrimonially inclined. But since I am not a story writer I mention some of the difficulties that will occur to the hero and heroine after marriage, but it must not be assumed that the city girl never or seldom makes a good farmer's wife. My highly prized and efficient wife was a city girl. When I married her she had no experience with farmer life or with the farm kitchen. She had always lived in a large village or a large city. Fortunately her mother had taught her how to cook and had explained to her some of the secrets of housekeeping, therefore I never suffered from hard biscuits or indigestible cakes and pies. I have ever attributed my success at Green's Fruit Farm largely to the successful and economical management of the household by my good wife.—C. A. Green.

Sowing

We're sowing either golden grain,
Or tares and noxious weeds;
But the crop will show what we have sown
In our daily walk and deeds.
Be careful then what you daily sow
Along life's changing way,
For golden grain will a blessing bring,
But tares are a curse for aye.

Whether you sow with the busy throng
Or by yourself alone,
'Tis true as heaven that you will reap
Whatever you have sown.
Then scatter seeds of love and truth
With strong and generous hand,
And glorious will the harvest be
You'll gather in the land.

—By Marvin L. Phipps

C. A. Green. Your Green's Fruit Grower is the best fruit paper I have ever read. I have just bought 40 acres of land and intend to set it all out in fruit.—Geo. Hitchcock, Ill.

Advertising Home Products For Sale

Will it pay the fruit grower to advertise his farm products in his local paper or in more widely distributed periodicals? Will it pay him to invest \$50, \$100 or \$500 in such advertising? I assume that no one can answer this question definitely since there are so many things to be considered. I have done some advertising of this kind and have received responses and made numerous sales to distant patrons. I have found these patrons coming back year after year for supplies of apples and pears particularly, but newspaper advertising is costly and it requires skill to prepare it, to know where to have it inserted and what publications to patronize.

Last season we were surprised to see an advertisement which must have cost from \$200 to \$500, announcing that a certain man near New York city had a large crop of superior strawberries which he proposed to place on the market at certain dates. I cannot think that one insertion of this advertisement would pay the first year, but if this fruit grower intended to continue supplying a certain market and continued to advertise, it might in the end be profitable.

But there is one form of farm advertising that should be made the most of and of which there can be no doubt as to its success; I refer to a blackboard or billboard stationed in front of the farmhouse, made conspicuous to all passers by, headed as follows in big letters: "We have for sale at this farm the following items." Then can follow a written statement, in chalk or notes written plainly with a pen, tacked onto the board, which passers by would have to get out of the carriage to read. Such a sign as this would attract patrons, which trade in the course of years would continually increase until the proprietor could sell a large portion of his product at home to people who would come in wagons or automobiles and carry the peaches, apples, pears, plums, quinces, grapes or melons away with them. I have friends in Rochester who run out almost daily in their automobiles a little farther than the suburbs of the city to get fresh supplies of melons and other fruits, expecting to get them a little cheaper than they would buy them of their grocer and a little better.

Tales From the Farm

In the December number of Farm and Family several interesting and inspiring tales from the farm are told. A young back-to-the-soiler in Jefferson county is selling his hogs "ground fine." He runs the product of fifteen sows through the sausage mill and sells 200-pound pigs by parcel post, distributing them to epicureans in Vermont and Florida, as well as in Louisville and its vicinity. Some farmers sell corn from the field, and their land depreciates in value as a result of soil mining. Better farmers sell their corn in the form of hogs or cattle, and their land improves. Still better farmers keep their land in grass and sell other farmers' corn "on the hoof," making their profit from feeding stock and increasing their capital by feeding the soil. Selling hogs in the form of sausage proves more profitable to the hero of Farm and Family's pastoral than selling them to the packing houses to utilize everything but the squeal. The example should be suggestive to other farmers. A slaughter house keeps on the farm the profits that are as a rule made in the city slaughter house.

They Must Wake Up

The farmer, like the business man, must wake up to the fact that the old order of things is passing away, and if he does not change his ways and quicken his pace, he will be left.

The farm can be made a more attractive place than a city shop or office. That it is not now, with mud up to the front door and extending to the stable, the barn—anywhere that a boy has to go while doing the chores, none will deny.

But this is not necessary, as you will see by visiting a model farm. Dry walks, clean stables and comfortable places in which to work are not only possible but are cheaper and easier to maintain than the rattletraps that pass as farm buildings.

Some farmers say they haven't time to make themselves and their families comfortable, yet at the same time they are wasting more time chewing the rag and blowing about trusts and things than would take to make comfortable, attractive homes.

Sickly Trees

I enjoy experimenting with the planting and resurrection of trees that would seem to be dead. I once found a standard pear tree that had been thrown away and had lain exposed to the sun and wind for a month or more. I allowed it to remain until it had shriveled and was seemingly dead. Then as an experiment I buried the tree root and branch in moist soil. At the end of a week I dug it out of the soil, found the bark had swelled and was plump and fresh. Then I planted the tree with great care, cut back the top freely and was proud to find it budding out and growing. Later I experimented with a sweet cherry tree, which is considered one of the most difficult to transplant. A little inferior crooked tree was discovered among the rubbish where it had lain for several weeks. I planted this tree in my garden, heading the top back closely. It was the Windsor cherry. It is now a tall, thrifty and productive tree.

Recently I found a one year old English walnut which in digging had been over looked and was partially exposed to frost during the winter. There was little earth over the roots. I picked it up and found it apparently alive and intended to take it to the garden and plant it at once. But finding other work to do I laid this little nut tree on a pile of boards where it was forgotten. That night was a frosty night. The next day I recalled my neglect and planted the walnut tree in my garden where it is now thriving.

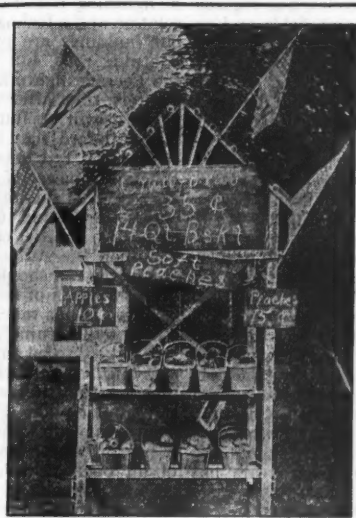
If trees that have seemingly perished can be resuscitated and made to grow and thrive, we should expect that healthy trees in full vigor would always bear shipping and transplanting. The fact is they would bear shipping to nearby states by express without any protection or packing attached to the roots, but in spite of this fact the utmost care is taken in protecting the roots of every tree.

Near the office of Green's Fruit Grower I planted June first a flowering thorn. It was small and ungainly and had been thrown aside as worthless. It failed to begin growth for several weeks. In order to encourage it I cut back the branches closely. A week or two passed but no signs of growth. Then I cut off all the branches, leaving simply a stub of the trunk, and in a short

any favorable results. When the warm June rains came I examined the plants and found new roots being forced through the dead bark of the roots. Feeling assured that these plants would grow, I placed them in the bed which I had prepared. They all lived and most of them blossomed the same season. Later I found a gooseberry plant exposed fully on my lawn. It looked dried out and dead, but it grew when planted in nice garden soil as an experiment.

Army Walked in Its Sleep

In an article, "Sleep for the Sleepless," in the current "World's Work" the author quotes an eminent surgeon, who made a study of sleep in the French army, as follows:



Such a Sign as This Would Attract Patrons

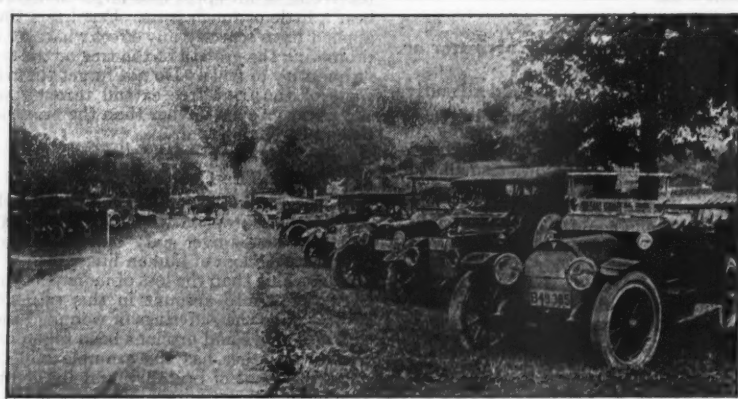
"In the retreat from Mons to the Marne we have an extraordinary human experiment, in which several hundred thousand men secured little sleep during nine days, and in addition made forced marches and fought one of the greatest battles in history.

"How, then, did these men survive nine days apparently without opportunity for sleep? They did an extraordinary thing—they slept while they marched! Sheer fatigue slowed down their pace to a rate that would permit them to sleep while walking. When they halted they fell asleep. They slept in water and on rough ground, when suffering the pangs of hunger and thirst, and even severely wounded. They cared not for capture, not even for death, if only they could sleep.

Farmers Buy 50 Per Cent of Cars

"More than half of this year's enormous output of automobiles is being sold to people who live in the country, which is a pretty good indication of the farmer's appreciation of the automobile. If any further proof is needed, you have but to attend a few of the state or county fairs.

"The parking spaces that a few years ago were occupied by horses and rigs are now filled almost solidly with row after row of automobiles. Attendance figures show a remarkable increase, due entirely to the distance-defying ability of the motor car. The farmers who did not care to travel fifteen or twenty miles behind a slow-moving horse now think nothing of a forty or sixty



Parking Spaces Are Now Filled Almost Solidly with Automobiles

mile spin in a machine.

6,000 Cars at Fair

"At one of the big state fairs in the middle west last fall a careful record was kept of the number of automobiles that entered the grounds. The daily average was close to 6,000. The few horses that were there seemed out of place. They were hemmed in on all sides and literally pushed to the wall.

"Next to the big national automobile shows, these fairs are considered the most productive from a selling standpoint of all places where automobiles and trucks are exhibited. The money spent in fitting up

an attractive booth at any county fair is sure to pay big dividends to the automobile dealer."

The Delicious Apple

Mr. Chas. A. Green: I wish to report to you my experience with the Delicious apple. I purchased my first Delicious trees in the spring of 1909—1 yr. trees. I planted them with peaches, same year. Delicious will not bear any quicker than Baldwin.

The seventh year I had 1½ peach baskets of apples. Eighth year, I had 8 bushels from 40 trees. Some trees did not have any on while one tree had 1½ bushels.

They have been under cultivation every year, with a cover crop of rye. They have made a good growth and make a strong healthy tree.

The apples on these young trees were large and highly colored. I sold 4 bushels. As a box apple in Haverstraw @ \$1.50 per bushel.

As a dessert apple they certainly rank high. I am fortunate in having a lot of good neighbors and whenever they call they prefer the Delicious apple to Baldwin, Greening, etc., and this spring there are several that want Delicious grafts.

I find that they are far better keepers than R. I. Greening or even Baldwin. With me they keep as good or better than Black Ben Davis.

Still I do not think they will ever surpass Baldwin for market. Baldwin is still the most popular apple in Rockland Co., N. Y. It is not waning one bit.

McIntosh Red is another apple new in this county and I think will become very popular when they find out its high quality. I like it slightly better than Delicious.

In the spring of 1908 I grafted an old apple tree (perhaps 40 yrs. old) that stood in a stone fence, to Delicious. It bore a few apples the second year and has borne every year since, but last fall it was overloaded and apples not nearly as large as on young trees. They bear like old Winesap and King David. They simply hang on in strings, yet there were over half of the Delicious of saleable size and no doubt with a little heavier pruning there would not be many small ones. On old tree quality was much better than young trees. (Delicious).

King David I would not have on the farm. It overbears and at least ¼ of them are unsalable in any grade, poor keepers, are an early winter apple here; flavor is quite good.

I am unfortunate in one regard. My Delicious get stung, while they are small, by the curculio. I sprayed them last spring with lime-sulphur and Black leaf 40 as a dormant spray for scale and aphids and later with Arsenate of Lead for codling moth. Still there was quite a percentage of knotty and misshapen apples, some of them not even good for second grade.

The orchard is along a woods. My peaches on side of woods get badly stung. I have large bearing Baldwins in next orchard which are not affected that way. I wish Delicious were same shape as Baldwins.

I know this much about Delicious that every farmer should have one or more trees for his own use.

The above knotty condition is their greatest fault that I know of. Where stung, there seems to be a core or hard lump that spoils their shape and also eating qualities. The fair ones do not have those lumps inside.—W. A. B., N. Y.

Odd and Interesting Facts

There is said to be one rat to every acre of land in England and Wales, causing an annual loss to farmers that is estimated at \$73,000,000.

The government maintains 27,340 miles of road in Spain and has more than 3,000 miles under construction at the present time.

A preparation of solidified glue, which can be used instead of rubber for many purposes, has been invented by a German scientist.

An inventor living at Troy, N. Y., has patented a laundry machine that irons an entire skirt over a conical roller at a single operation.

Ships built in American yards were fewer in number in the year ending last June, but of much greater tonnage than in the previous year.



The Spring Pickup

Every spring the housekeeper sets aside days for household pickup and cleaning. The diligent husband sees the necessity for a general pickup around the home grounds, around the barn buildings and over the fields at large. It is strange that so much waste material will accumulate during winter months. This is not for the reason that waste matter accumulates faster in winter, but is owing to the fact that the waste is not picked up during winter as it is picked up during summer months. The leaves of autumn have fallen and drifted into the nooks and corners, as have also the scraps of paper and the various odds and ends that may be found at this season adjacent to the house and over the grounds at large.

When spring opens I find myself with iron rake in hand raking up about the kitchen doors and picking up stray branches broken down from the trees and clippings from grape vines, roses and other ornamental shrubs. The one job that is most effective in giving the home grounds an attractive look and appearance is the straightening out of the edgings of the driveways and of the walks if they are of gravel. When the frost first comes out of the ground the soil at the edges of the driveways is soft and easily cut, I stretch a line along each side of the driveway and with a light spade straighten the border, digging no deeper than two inches. This straightening of the borders of the edges of the driveways should be repeated two or three times during the summer. If the ground becomes hard in July or August this work of trimming the border can be done after a rain. If not done the driveway presents a ragged appearance.

A few hours' work applied as I have suggested will make the place look hundreds of dollars better. Do not delay picking up the brush that you have cut from the orchard trees during the winter or spring months.

Early Working of the Soil

It should be borne in mind that the larger part of plant or tree growth occurs in early summer. It would seem that nature, after her long winter's rest, was stimulated into marvelous vitality by the warmth of spring and early summer, which may account for the marvelous result in growth early in the season. In order to take advantage of the boom which occurs soon after the opening of the buds, the soil should be stirred and broken up so as to admit the penetration of sunshine and air to the soil, thus greatly aiding nature. The soil is packed firmly with the snows and rains of winter. If the soil is not loosened early in the season with shallow plowing or with moderately deep cultivation it will be apt to harden so that it is almost impossible to give it proper cultivation.

Every year at Green's Fruit Farm I feel called upon to caution the superintendent not to delay early cultivation in the berry fields, vineyard and orchard. I recall one season when the weather came off warm followed by a long dry spell. Being driven with other work, the loosening up of the soil was delayed. The result was hardening of the soil and greatly decreased growth of plants, vines and trees. But while early cultivation is desirable it must not be done until the soil has dried out sufficiently so that it is not sticky. No cultivation should be given the soil until it is dry enough to crumble under the operation of the cultivator or plow. The date for beginning cultivation cannot be positively stated since seasons vary. Much depends upon the character of the soil. If it is sandy it can be cultivated much earlier than if the soil has a tendency to be clayey.

The Soil of Your Farm

There are on most New York state farms a variety of soils. One field may be inclined to sand, another to clay, another

largely a mixture of sand and clay, another may be gravelly, and those in the lowland may be fields of muck. It is for this reason that when a man moves on to a newly purchased farm he has much to learn as regards the character of the different fields and as to what kind of crop the different fields are best suited to, and which will need the largest application of fertilizers. It is desirable that your farms should be part sandy and part clayey or part upland and part lowland, for this enables you to cultivate certain fields much earlier than others and to plant them much earlier.

How different is the condition of vast stretches of prairie in the middle west, especially in Dakota, where one farm is almost precisely like another and one part of the farm precisely like other parts of the same farm.

The poet said, "The proper study of mankind is man," and we might say that the proper study of farmer or fruit grower is his farm and what it is best adapted to and how it may be most advantageously cultivated and planted during the period of a lifetime of thirty or forty years. Usually the man who buys a new farm will find that the stable manure throughout a hundred years has been spread upon the fields nearest the farm buildings and that these fields will be the most fertile, and that the most distant

THE nations of the earth are greatly in need of food products. You can therefore serve yourself and mankind at large by striving to secure the largest crops possible.—C. A. Green.

fields are those which will need the application of commercial fertilizers on the assumption that you cannot make enough stable manure to cover all the fields.

Do not forget that cultivation may be made to take the place of stable manure or commercial fertilizers, since thorough and frequent cultivation unlocks the storehouse of fertility that has been accumulated through a long period of time and which without cultivation might not be available as plant food.

Deep Cultivation With Cultivator or Plow

I caution all fruit growers and all cultivators of the soil about deep cultivation, even with the one horse cultivator, among rows of strawberries, raspberries, blackberries, currants, gooseberries or other small fruits and in the corn and potato field. I can assure you positively that you would be astonished if you could see the vast number of feeding roots which are disturbed by the one horse cultivator even in the most experienced hands. The nature of the roots of these various plants is not to forage deeply in the soil but to come up near the surface where there is warmth. If you cultivate in the center between two rows you can cultivate deeper there, but when your cultivator teeth approach within four to six inches of the plants, as they should, the teeth should never run deeper than two inches. If such advice as this can be given you in regard to the damage caused by the one-horse cultivator, what can be said of the one-horse plow, which often is run within six inches or a foot of the row of berry plants. Surely such plowing as this is almost fatal. When the one horse plow is used between the rows of small fruits it should not be run closer than 18 inches, throwing the furrow towards the plants and not away from them. Then follow with the cultivator, leveling down the soil between the rows. You can test this matter for yourself by digging carefully into one side

of a hill of corn or potatoes when you will discover the mass of feeding roots close to the surface of the soil. These roots later in the season extend fully half way or further between the rows. You cannot disturb or cut off these feeding roots in plants, vines or trees without doing injury to the crop and to the growth.

When I was a boy on the farm I planted cabbage in the same garden partly set aside for our German helpers. I was surprised to find that the German cabbage thrived much better than mine. I am satisfied that my deep cultivation was the cause of my defeat.

Lightning Rods

With the coming of summer our interest in lightning rods increases. There is consolation and a feeling of greater safety when our buildings are properly protected with lightning rods, but my experience is that the average lightning rod is put up so insecurely that after a few years if investigated it will be found worse than useless. The standard that should support the top end of the rod gets broken or weakened. Where the pieces of rod are joined together they become separated, and where the rod enters the ground it is made to enter in at such little depth it often gets pulled out and lies upon the surface, whereas this ground end of the rod should extend down to moist soil at a depth of not less than six feet.

There is not much danger of your being struck by lightning in your house. You are more likely to be struck in the field or when carrying a pitchfork or umbrella or when seeking the protection of a tree. The safest place for a man during a thunder shower is in the center of a room in his own house, or lying flat on his back in the middle of an open field far away from trees or fences. You can make yourself almost absolutely safe during a thunder storm in your own house by sitting in a chair, each

thing about a home that can be done on a rainy day with profit, but with great profit if in doing these helpful things we dispel the sadness that comes naturally with clouds and sleet. How many things there are about any home that can be done to help the housewife at her work. Consider the cellar first. Almost every cellar in the country needs renovating and cleaning. Possibly its walls need whitewashing. The windows are apt to be dusty and cobwebby, shutting out the light, and may not fit close enough to keep out the frost. Then go through the rooms on the first floor above and then on the second floor and continue work even to the attic.

But assuming that you found nothing to be done on a rainy day in the house, consider the out buildings and hen house, the shop, the barns. I mention the shop because in my opinion every farmer's home should have a work shop where there are saws, planes, drawshaves, sharp axes, and various ordinary tools that are so helpful about a farm. When you get to work as I have suggested you will forget all about the weather. Idle people are ever distressed with the clouds and the rain. Busy people have no time to think about such troubles.

Stable Manure

This is or should be a subject of growing interest to the fruit grower and farmer. But at this time of almost world-wide warfare, when the supplies of nitrate of soda, potash and other ingredients of commercial fertilizers are very scarce and high in price and often unobtainable, there is special need of the greatest care in making the best possible use of stable manure. There is another reason why this subject should receive more than ordinary attention at this time, which is that the prices of food products are remarkably high in price.

The great waste of stable manure is in heating, which more often occurs with horse manure, and with leaching, which often occurs in the average farm barnyard. It is settled now that the time to apply manure to the soil is as fast as produced, or almost daily, spreading it broadcast over the field desired to be fertilized. But little waste can occur if this system is practiced.

Constant Demand for Cherries

About the strongest argument I can present to the would-be fruit-growers to persuade them to take up cherry culture in preference to other fruits, is the constant demand for their product and the fact that the cherry tree has but few enemies, while we have a constant fight each year to protect other trees from the attacks of San Jose, oyster shell and scurfy scale, blight, borers and many other enemies, from which we find that the cherry trees are almost immune, says the American Fruit-Grower. However, we always spray them with the same solution we are using for San Jose scale on apple trees, and while I have never seen scale on cherry trees, I believe them to be greatly benefited by the spray. One thing I notice since spraying the cherry trees, is the almost entire absence of wormy fruit. Spraying solutions for San Jose scale are not usually recommended for worms, and I cannot say that this is the cause of the fruit being free from them, but the worms are gone anyhow, which is the point of interest.

Don't think that since cherries or other fruits are plenty in your neighborhood they are selling cheap elsewhere.—C. A. Green.

The Small Package

The fruit grower or farmer who studies the market situation will observe that the small package is coming to the front. Instead of packing your butter in a jar for which the buyer would have to pay \$3.00 to \$5.00, pack the butter in a small jar which the buyer could purchase for 75 or 95 cents. Instead of packing all of your apples in barrels, pack a portion of them in bushel boxes.

Notice there has been a change in late years in the size of packages for selling and shipping grapes, peaches, plums, pears and other fruits. The buyer requires some package in which to carry his purchase home. It should be a clean and attractive package. Even a bushel box is too large a package for many buyers of apples. There are few city people or village people who can afford to buy apples by the barrel, but aside from this they have no cool place to store the barrel of apples. Notice that the size of milk and cream bottles has been de-

A Rainy Day
Today clouds have gathered and the rain is beating upon the window panes. My first thought is one of sadness. My second thought is to find something to do. Work is a remedy for sadness no matter what may be the cause of grief. There are many

creased from a quart to a pint. Now a still smaller bottle has been introduced, holding a gill, just enough for the breakfast cereal of one person. Last night at a restaurant I was handed two cakes of cereal in one package. This cereal had come in packages of a dozen cakes.

Analyzing Soils

Frequently subscribers of Green's Fruit Grower inquire as to where they can get samples of their soil analyzed and what benefit will accrue. My answer is that such analysis in most cases amount to but little. In the first place the analysis may show fertility that is in the soil but not in an available condition for plant growth. It is quite expensive having soil analyzed and yet some of the experiment stations do the work without charge, but the man who analyzes the soil cannot tell whether it is suitable for peach growing, apple growing or berry growing, which depend on many other issues than that of the plant food present in the specimen of soil analyzed. The man who analyzes the soil could not tell whether it was suitable for certain crops of fruit or grain. He must know the lay of the land, whether it needs the sub-soil draining, and many other important facts.

Proof That Advertising Lowers Selling Cost

The rising cost of living is the great universal hardship of the present day. So great and so many have these rises been that few people stop to realize that there have been any exceptions to the general rule. But the fact is that there have been numerous exceptions and all of these exceptions belong to the same great class—that of nationally advertised goods.

The business man knows that anything which creates demand on a large scale, and thus makes selling easier, is bound to reduce selling costs and thus helps to reduce prices.

To present all the evidence, instance by instance, is impossible within these limits. A few representative cases will suffice.

The makers of a famous photographic camera, when they began advertising twenty-eight years ago, made one camera which took a 2½ inch picture and which sold at \$25. Today they make a far better camera which sells for \$10. Another, which took a 4 x 5 picture, sold for \$60. Today they sell a far better one for \$20. And so on through the line.

When the manufacturer of a famous breakfast food specialty began advertising, his goods sold at 15 cents a package. Today the package is fifty per cent larger and the price has been reduced to 10 cents. Again advertising did it, the same causes producing the same results.

Twenty years ago a nationally advertised shaving stick was sold in a cheap metal leatherette covered box. Today a stick containing 20 per cent more soap is sold in a handsome nickel box at the same price.

Then take the most conspicuous example of them all—the automobile business; and compare the \$5,000 or \$10,000 cars of ten years ago with the equally good cars of today, selling for a fraction of the money.

And so on through a long list. In every case, the manufacturer either has been able to lower the price or improve the quality at no increase in price.

How has he done it? By means of advertising, which has created demand on a larger scale and thus permitted production and distribution on a large scale. Result—improved manufacturing efficiency and reduced selling costs. And all of this in the face of a steady increase in the cost of labor and raw materials which, with advertising eliminated, might in many cases have fairly doubled the price of the goods.

The Destructive Tent Caterpillar

This caterpillar is an insect which has been increasing rapidly. I can remember when the nest of the tent caterpillar was seldom seen in orchards. Each year it has increased until now it is a serious menace. It is not difficult to destroy this insect if taken in time with the proper remedies. During the late fall and winter months its eggs can be discovered and burned. The eggs in a mass may be found stuck together so that they encircle the twigs. Their whitish color makes them somewhat conspicuous, and yet it requires a sharp eye to discover them. These bunches of little eggs, about the size of pin heads, if not cut off from the trees and burned during the dormant season, develop into a colony of

big worms about two inches long and the nests which are so plainly seen appear as warm weather approaches.

If the eggs have not been sought for and destroyed, the next best thing is to hunt for the nests as early as possible, when the worms are small and the nests are small and before the most destructive work of the insect in devouring every leaf has begun. The branch containing the nest can be cut off and burned, insects attached.

If the orchard has been neglected and the tent caterpillar has attained nearly full size and has begun devouring the foliage, there are two remedies left. One is to spray the trees with a poisoned spray, covering every leaf if possible. The other remedy is to burn the nest in the evening or early

morning before the caterpillars have spread over the surface of the tree. This is done by tying a rag soaked in kerosene oil to a long pole and after lighting it hold it beneath the nest until the nest and the worms are burned. Be careful not to injure branches with your torch flame.

Advice to a Planter of Fruits

A widow with a son to assist her desires to begin fruit-growing and asks me for advice. I advise her to try to find in her neighborhood some individual who has had experience in fruit-growing who will inform her what part of her little farm is best adapted to small fruits and which is best adapted to large fruits, such as apples, pears, peaches, plums and cherries. She can well afford to

pay this man of experience who should tell her which field has the proper elevation, if any, and which is in the best condition for planting the various products. He will no doubt tell her not to plant the small fruits such as the strawberry, raspberry, blackberry, currant and gooseberry on sod land or in any soil that has not been thoroughly subdued, and that land on which corn, potatoes or peas were produced last year is assumed to be in condition for planting small fruits this spring. Such an experienced man as I have described should be able with her son and possibly with another ordinary laborer to do all of her planting in a day. She could well afford to pay him double price for his day's work in advising and assisting her.

Fair List Prices

Fair Treatment

GOODRICH

BLACK SAFETY TREAD TIRES

Underwritten by GOODRICH

Good Faith

The Fair Treatment Guarantee—the pledged good faith of The B. F. Goodrich Rubber Company—takes the slightest shadow of a risk off Goodrich Black Safety Tread Tires.

You must get full value service from a Goodrich tire, or Goodrich wants it back forthwith.

Then Goodrich FAIR TREATMENT steps up and squares the debt of that tire—squares it gladly and generously with a liberal adjustment, bound to satisfy you.

For Goodrich accepts as the Company's debt of honor an obligation of tire service, worthy of the best fabric tire made.

There are no conditions, no catch words to Goodrich's world wide invitation:

**"Send back to Goodrich
ANY Goodrich tire you
believe owes you anything."**

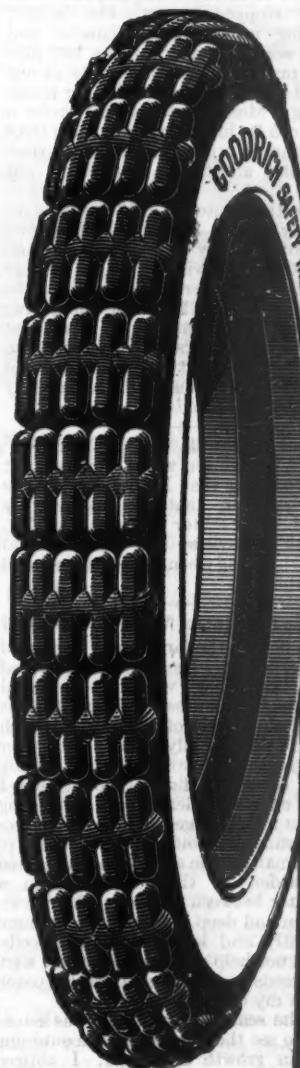
Where You See This Sign
Goodrich Tires are Stocked



Ask Your Dealer for Them

The B. F. Goodrich Rubber Co.
Akron, Ohio

Also Maker of the Celebrated tires
on which Dario Resta won the official
1916 National Automobile Racing
Championship, Silvertown Cord Tires



"Best in the Long Run"

Notes From Green's Fruit Farm

Sore Shoulders on Horses

It is hardly possible for any publication to discuss this question too often: How can we best prevent sore shoulders on our draft horses? The prevailing opinion is that soft pads placed inside the collars against the breasts of the horses will prevent chafing and sores, but men of large experience hold to the theory that an ordinary collar, well fitted, of smooth leather, padded hard, is better as a preventive of sore shoulders than a collar with an extra pad of cloth placed inside. Whatever is done in the way of selection of collars or pads, one of the important things is the keeping of the inside of the collar or pad clean by washing or rubbing with the hand daily, or twice a day in some instances. The breasts of the horses should be washed daily. A solution of boracic acid is perhaps the best wash. This is mild and can be placed in the eye without pain. The next best wash may be common salt dissolved in water, not too strong, but bathing simply with water will be helpful, allowing the breast to dry without putting on the collar.

Hardy English Walnuts

In writing or talking of the English walnut, so called, I feel continually the necessity of using this old and incorrect name, feeling that if I mentioned it as the Persian walnut, its true name, the reader would in many instances not know to what I referred.

I have growing near the office of Green's Fruit Grower the product of many bushels of hardy Persian walnuts. These nuts sprouted and grew almost as freely as potatoes. They quickly sent up a growth of 12 to 18 inches, but after that quickly stopped growth in height, expanding in calibre or diameter and making scarcely any branches but producing many roots. These nuts at one year old are in prime condition for transplanting. Most people would prefer a tree 4 to 5 ft. high, but the smaller trees bear transplanting much better than those older, and this is true of all nut trees.

While the winter of 1917 has been remarkably severe, I have not discovered the slightest injury done to these Persian walnut trees even where they are entirely unprotected. There are many of these walnut trees growing and producing nuts at Rochester, N. Y., without protection. Farmers are beginning to plant Persian walnut trees in groves and they have been found to be remarkably productive and profitable.

Luther Burbank Not a Bachelor

Mr. C. R. Johnson writes Green's Fruit Grower stating that Luther Burbank is not a bachelor, that he has recently married. Our editor was aware of Mr. Burbank's marriage, but this fact had escaped his mind when the item mentioned was published.

What Is the Matter With the Garden?

As a boy on the farm I was fascinated with gardening. Next to hunting and fishing, gardening was my principal amusement. One season my garden was planted along side of the garden patch of a German family who leased our tenant house and worked for us. Being full of conceit I did not doubt that I should excel the Germans in gardening and that my cabbages, radishes, tomatoes and cucumbers would outgrow those of the German garden along side. I planted my garden so that I could run a cultivator between the rows. I cultivated often and deep. I hoed the ground frequently and kept it free from weeds. I could not help noticing that there were more weeds in the German garden patch than in my own.

As the season progressed I was astonished to see the German garden outdoing mine in growth and vigor. I noticed especially that the German's cabbage patch was far ahead of mine. I could not account for this, for my land was the same as the German's and I gave my garden more attention than did my neighbor.

Of late years as I have reviewed this garden experience I have come to the conclusion that in horse cultivation and

deep cultivation I severed the roots of the plants, particularly of the cabbage plants. The Germans had no horse and cultivator. Their work was done entirely with the hoe and the roots of their cabbage and other items were not interfered with as were mine.

Here is a lesson for the readers of Green's Fruit Grower. Whatever you are cultivating, whether it is berry plants, potatoes, corn or cabbage, be careful not to cultivate deep enough near the plants to disturb the mass of roots which are being thrown out there.

Planting Asparagus

I would like to have some instructions as to the planting and propagating of asparagus and instructions as to how to space the plants in the rows and how far the rows should be apart.—M. R., Pa.

Asparagus is propagated from seed and from seed only. There are few except nur-

serymen who secure plants of asparagus from seed.

In planting asparagus the crowns must not be covered deeper than an inch or two. I spade a slanting trench a foot deep across the garden and lay the asparagus against the sloping side of this trench with the crown three or four inches below the surface of the surrounding ground and with the roots extending as far down as their length. Then I partially fill in this trench with loose friable soil, covering the crowns only an inch or two deep, but naturally the lower parts of the roots will be covered much deeper and the soil should be pressed in firmly over the roots. By this method the crowns will be covered but slightly but they will lie lower than the level of the ground. After growth has begun and extended a few inches then the trench may be fully filled with loose garden soil, but after growth starts and appears above the ground the green shoots should never be covered.

It may be planted as late as June, but the earlier the better.

Grapes Overbearing

Green's Fruit Grower: My Concord grapes were insufficiently pruned consequently are setting too many fruit clusters. Will it do now to rub off half of this new growth to reduce the number of blossoms, or how should I manage?—H. L. Felter, Iowa.

Reply: Yes, I think it would be desirable to rub off some of the clusters of fruit where the proper pruning of the vine has been neglected, but this would be too laborious in a large vineyard and would not in any case entirely take the place of proper pruning at the proper time.

Brown Rot on Plums

Green's Fruit Grower: Do you know what causes plums to rot on the trees before they are half grown? And also if spraying will help to overcome the cause and what kind of spray solution I should use?—J. M. S., Conn.

Reply: The trouble afflicting your plums is Brown Rot, a fungous disease of stone fruits.

Prune the trees so as to let in sunlight and air. Spray with Bordeaux mixture 4-4-50, or lime-sulphur 1-40 just before the blossom buds open in the spring and repeat this spray just after the blossoms fall. Thin the fruit well and in the fall destroy all fruits remaining on the trees or ground and repeat this spray just after the blossoms fall.

COLOR IN THE GARDEN

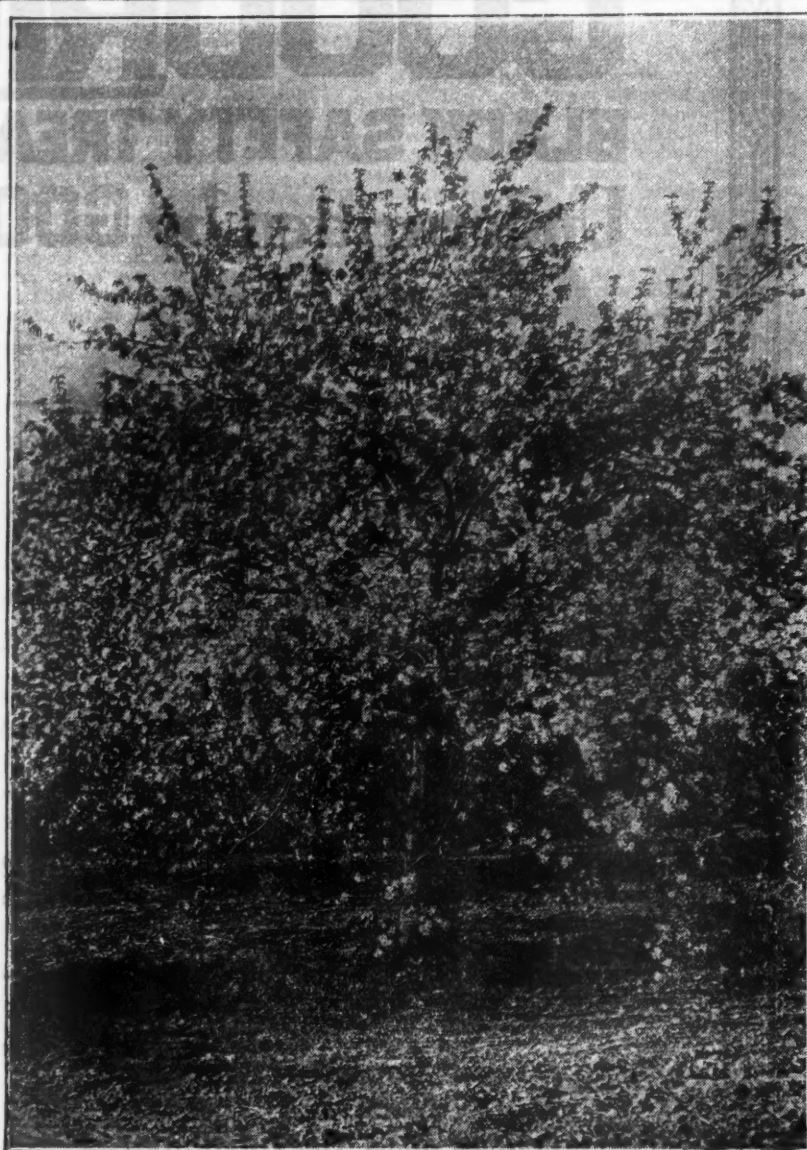
Written for Green's Fruit Grower By F. H. Sweet, Va.

While variety of coloring is one of the most pleasing features connected with the blooming time of bulbs, this same amazing variety also leads to embarrassing complications in the garden, for it is among the bulbous plants that we find the brightest reds, the richest yellows, the clearest blues, the strongest purples, the most decided pinks, and the purest whites. Without very much effort one can plant a bulb bed in such a fashion as to set all the teeth in the neighborhood on edge. Bulb beds, therefore, should be planted with some regard to color. You can safely mix yellows and whites and purples, for nature does that in the pansy. You may plant reds and yellows in the same bed with no very serious results, but cerise pinks and the blues that are really blue must be kept away from the yellows, reds and purples.

The blossoms of a little bulbous plant called the scilla siberica are the most intensely blue of any flower. In the chionodoxas we find various shades of this same blue. The puschkinia, too, though much paler than either of these, may be considered a blue flower. It is an excellent plan to group these attractive scillas, chionodoxas and puschkinia in a little bed with snowdrops and white crocuses. They must never be planted with purple crocuses, for they bloom at the same time, and the color combination is atrocious. One should avoid putting mixed hyacinths in this bed, too, since either purple or pink blossoms would destroy the pleasing effect of the blue and white. Both the scillas and the chionodoxas—the snowdrops and white crocuses—live from year to year and may be counted on to increase pleasantly if the soil is to their liking. The tulip, more than any one flower, lends itself with graciousness to the gardener's love of color schemes, for tulips may be found in such endless variety of color and shade that all tastes and needs can easily be satisfied.

Sow lettuce and radish seed in well-drained rich soil, and in positions shielded from hottest sun; crispness is thus insured in hot weather.

Currents are heavy yielders. When given good treatment, yields of 250 to 300 bushels per acre are not unknown.



The Apple Tree

Come view the orchard monarch, burdened down
With bloom magnificent, his challenge flung
To all the trees aspiring to his crown—
Where thronged Perfection sits 'mid blossoming.
Defying all the earth.

Come view the massive trunk, where fifty years
Branch with their ample limbs, to airy space.
Close in yon crutch the thrifty robin rears
His annual home and finds a trysting place.
From curious eyes concealed.

Far in the topmost turret is the choir
Of two bobolinks, whose protruding throats
Vibrate such song that all the birds aspire
And flood the ambient air with dulcet notes.
Chanting their roundelay.

Oh, this is truly Eden! This the tree
Which bore us Wisdom 'neath its tempting shade!
And yet, preferred of God, it lived to be
The Appomattox where our peace was made.
Come view the perfect tree.

—Frank Roberts in Rochester Herald

FACTS ON LI
Director of Green's
not that so man

Success With Spy Orchard

Three years ago, the orchard was set five years at that time, we harvested thirty-seven bushels of wheat per acre in the orchard, says L. E. Hall of Michigan, in N. Y. State Local Report, and sold it for \$1.52 a bushel, and the next year we harvested a hay crop. Last year we planted it with beans, and it was an off year for beans and we had half a crop of beans, ten bushels to the acre, and sold them for \$6.25 a bushel, so we are taking revenue right along. The best feature about this thing is that looking over the conditions as I find them, the fillers in an orchard rarely ever are taken out on time. You plant an annual crop and you will get it out on time.

I presume that the next time that I departed from the accepted plans for growing an orchard was in the heading of the trees. The nurserymen said, you must head them down within twenty inches of the ground or thereabouts. I always thought my nose was about the right distance from the ground, and I headed them right off here. I have got five orchards in the State of Michigan, and while in full fruit they hang lower than any orchard I know of. I have got the photographs here to prove it. That is the second departure. As it said, we raised ordinary farm crops in the usual rotation while growing the orchard.

The fourteenth year we had what we call a crop of apples. We have had some apples in this orchard previous to that time, but we did not count that as a crop. Then we desisted from taking out farm crops. The system I have is to sow Canada field peas and hog down, and I have been told I presume fifty times, that they thought I was the only man that had nerve enough to turn a drove of hogs into an orchard, and I will say in this connection that I have never had a tree injured by hogs, and we keep them in the orchard the whole year except during the period when the fruit hangs so low that they will strike it off or at this time of the year when it is too cold to have them out. At the present time the trees have got to the size enough to shade so that the peas do not do well. Since then we have plowed every second year, sowed to June clover and rape and pasture hogs. In addition to the forage for the hogs we get out of the orchard we supplement that with Western corn. Now, any of you who have followed the hog market for the last sixteen years will know that with the exception of the two last years the hog proposition will take care of itself, as long as the fertilizer has been used very liberally in the orchard. One year in particular I know of we took out a little over \$1,400 more than we put in hog products. We call this a by-product, and we got a whole lot of fertilizer besides. At the present time we are feeding hogs corn and not making any money on the hogs, but we produce a lot of fertilizer. It takes a lot of nerve to pay \$1.05 a bushel for corn and throw it broadcast to hogs. We feel that we have got to keep up the process in order to keep up the fertility of the field.

Now, this orchard since the fourteenth year has been an annual producer. We have produced a crop every year, and a good crop, and each one is larger than the one preceding. The orchard has not yet arrived at its prime.

1914 was a fairly good year, and 1915 was a very best year. Now, this fruit was absolutely clear, and only 51 pounds culls from this tree. From the three years' experimental work of the Department would indicate that there is a good deal in this matter.

I cut a great many scions for nurserymen. The contract with the nurserymen is that I cut out the scion from the bearing tree. I go to a tree like the one I am showing in the photograph, and it is very difficult to get scions from that tree. It is a very productive tree and the scions are short and you get them into the bundle they are unsatisfactory. We go to another tree that is not a producer and we will cut fifty-five times more scions from that tree and still we are meeting the terms of the contract. You can see readily if that is true where we are going to land in a few years. We are propagating twenty-times more unproductive nursery stock than we are of the productive kind. So this is for the experiment.

FACTS ON LIGHTNING RODS

Editor of Green's Fruit Grower: Funny, that so many people do not believe

that lightning rods afford any protection to their buildings until after they have a barn burnt up and everything destroyed. But I have invariably noticed that as soon as the barn is rebuilt, a lightning rod is immediately placed on the building. Would it not be better to place the rod or wire over the building before such a disastrous fire than afterwards?

A neighbor had a large barn destroyed by lightning a few years ago. The old barn had no protection against lightning but the new barn has the proper protection. During the first thunderstorm of the season in May this barn was struck, but as there was no inflammable material stored in the barn, only the rafter began to burn slowly which was outwitted before any damage was done. When I called my neighbor's attention to the fact that his barn should be rodged and so give it the proper protection, he answered something about the great expense of the undertaking. In other words, he did not take warning and protect his barn. Then during one of the last storms of the season the barn was struck again and being filled with straw and hay, it quickly went up in smoke, some of the stock even being destroyed. The new barn, of course, has the proper protection.

The Great Expense, a Common Excuse

The common excuse for delaying to give proper protection to farm buildings is that the expense is so great. The writer for one is not in favor of permitting some traveling agent to put up rods and charge from \$80 to \$100 for doing this work, as I have so frequently seen. I have seen such unscrupulous agents charge \$80 to put two points on a mere cottage—an outrage indeed. However, we need not enrich such unscrupulous agents and still we can give all our building the proper protection in a very cheap and substantial way. During the past five years I have given my buildings the proper protection in the following way and I have also assisted a number of neighbors to place the necessary wires over their buildings. I commonly use the regular barb wire on account of its toughness and strength. In my experience, I have never seen such barb wire fused by the lightning where properly grounded. The two most necessary things to watch are that the wire should be well grounded in moist earth. In order to insure this, I dig as deep a hole as I can, then I use a crowbar and make a hole in the center still deeper. A tough piece of oak sapling I then use to drive down into the hole thus made after I have bored a hole near the small end of the stake, placed the wire thru and wrapped it around the stake so as to hold the wire securely. In this way I get the wire down fully six feet in continual moist earth where it belongs. I keep the wire about eight inches above the barn roof all along by means of home made wooden brackets, and again place the other end of the wire deep into moist earth. The second point to remember is that the wire should be a continuous piece of metal from moist ground over building into moist ground. In this way the minus electricity of the ground can be drawn out continually and dissipated without giving the electricity a chance to accumulate on the ridge of the barn, and so offer a good opportunity for a stroke. Or when a bolt approaches near enough, it certainly will follow the continuous metallic connection into moist earth rather than run all thru the building thru non-conducting materials. In other words, we thus have the same protection that a very costly copper wire affords at but a fraction of the cost of a copper wire, with the only difference that a barb wire will need renewing every 15 or 20 years, while a copper wire will last much longer.

There is much more danger of buildings in the country being struck by lightning than in the city, for in the city many buildings have metal roofs and all down spouts lead into metal pipes entering the earth and so well grounded. In the country many houses now have metal roofs, yet if such roofs are not connected with moist earth by means of metal spouts or wires, the metal roofs will not afford any protection against lightning.

The question has often been asked: Why are so many barns struck by lightning? In the case of the barn burning at the head of the article the cause may have been the following one. There was a large quantity of manure at the end of the barn where the cows would frequently stand and the lightning in both instances struck that very end of the barn. Could that not have been

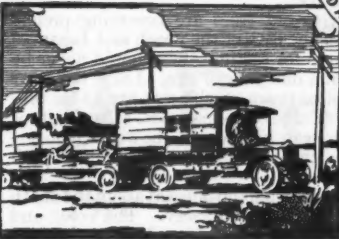
due to the ammonia arising from the manure and so forming a very good vehicle for the electricity of the thunder cloud to pass to the earth. Such is my opinion, judging from all the facts of the case referred to.

Without doubt, then, lightning rods do protect the buildings on which they are placed, when properly grounded in moist earth and forming a continuous metallic circuit from moist earth to moist earth.—P. C. Henry, N. Car.

Reply to W. L. Cone, Iowa:—Sweet cherries, black or white, do not bear so early after transplanting as do the sour cherries. The sour cherry is also hardier. Sweet cherry trees are more particular as to the soil on which they grow or are planted. I have a long row of sweet cherry trees planted on cold, undrained soil, which did not bear for several years after they should have borne abundantly. But finally they began to fruit and have been productive ever since. Sweet cherry trees are not hardy enough for Iowa.

We enjoy Green's Fruit Grower, it is full of good things—T. J. Tobey, N. Y.

Water should be taken freely. In one of the best sanitariums in the country all patients with any tendency to constipation are advised to drink two tumblers of water four times daily, before meals and at bed time, either hot or cold as preferred.



ODD FACTS

The human voice is produced by 44 different muscles.

Every square mile of sea is estimated to contain about 120,000,000 fish.

The sweetening power of syucose is 550 times greater than that of sugar.

Infectious diseases are unknown in Greenland on account of the dry, cold atmosphere.

Seventy-five steps a minute is the average walking pace of a healthy man or woman.

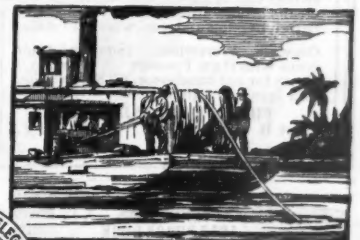
The whistle of a locomotive can be heard at a distance of 330 yards when the air is still.

The furnaces of an Atlantic liner will consume no less than 7,500,00 cubic feet of air an hour.

It is estimated that it takes 5000 bees to weigh a pound.

The first treaty with China which opened its ports to foreign trade was signed in 1842.

The best authorities say that thorough drainage will increase the product at least one third. Drainage will often convert useless land into the most productive.



Meeting the Universal Need

In the high passes of the mountains, accessible only to the daring pioneer and the sure-footed burro, there are telephone linemen stringing wires.

Across bays or rivers a flat-bottomed boat is used to unreel the message-bearing cables and lay them beneath the water.

Over the sand-blown, treeless desert a truck train plows its way with telephone material and supplies.

Through dense forests linemen are felling trees and cutting a swath for lines of wire-laden poles.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

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Vast telephone extensions are progressing simultaneously in the waste places as well as in the thickly populated communities.

These betterments are ceaseless and they are voluntary, requiring the expenditure of almost superhuman imagination, energy and large capital.

In the Bell organization, besides the army of manual toilers, there is an army of experts, including almost the entire gamut of human labors. These men, scientific and practical, are constantly inventing means for supplying the numberless new demands of the telephone using public.



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SURPRISING—how few rigs produce the right kind of spray. Sometimes it's because of low pressure—sometimes poor nozzles. Perhaps you know other reasons—from your own experience.

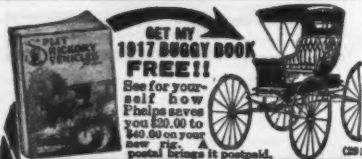
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Leaders for 35 years.

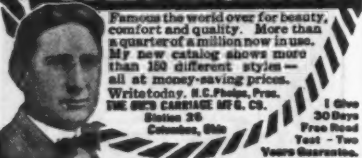
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Growers everywhere increase their crops with High Pressure "Ospraymo." Write for our handsome FREE catalog and Spraying Calendar.

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CURES HEAVES BY CORRECTING CAUSE—INDIGESTION. IT'S A GRAND CONDITIONER AND WORM EXPELLER

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A step ladder is best for low fruit trees, but you want the topmost fruit, too. "Berlin" Extension Step Ladders do the trick. Write today for interesting ladder facts, FREE.

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EXTENSION STEP LADDERS

DESTROY TREE PESTS

Kill San Jose Scale, Apple Scab, Fungus, lice, bugs and other enemies of vegetation by spraying with

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Subscribers who change their residence will please notify this office, giving old and new addresses.

Entered at Rochester (N. Y.) Post Office as second class mail matter.

Planting the Orchard

By J. C. Whitten

Preparation of the soil for planting an orchard should be as thorough as in preparing a seed bed for wheat or corn. The land ought to be thoroughly plowed to a good depth, disked and harrowed until it is thoroughly pulverized. Trees grow better if planted in well prepared ground. The most trying season on a young fruit tree is the first summer after it is transplanted before its root system gets well established. It is important then to prepare the ground and cultivate the first year so as to give the trees the best possible start.

Plant in check rows or squares. Apples should be set 35 feet to 45 feet apart; pears, peaches and cherries 20 by 20 feet; plums 16 to 20 feet.

One-year-old trees are becoming preferable. In the case of the peach and Japanese plum trees for setting, they should never be more than one year of age. Large one-year old apples, pears or cherries are to be preferred. Unless one-year-olds, 4 feet high or upwards, can be secured, however, moderate sized two-year-olds may be planted with success.

Young trees should be set at about the depth they stood in the nursery. The color and character of the bark shows how much of the tree grew below ground. The holes should be dug just deep and broad enough to admit roots in their normal spread without bending them.

In trimming the roots for planting use a sharp knife. If dried or ragged ends of roots are cut back into fresh tissue with a smooth cut, they will heal more rapidly. If a root is too long to be planted in its normal position, it should be shortened to 6 or 8 inches in length. Any diseased or broken portions should be pruned off.

Do not expose the roots of trees in planting for any longer period than is necessary. For that reason trees should be distributed to the planters only as fast as they can be

set. In taking the trees to the field, the roots ought to be dipped in water and kept covered with moist packing material or wet sacks to keep them moist. On a dry windy day roots will dry out much more quickly than on a still cloudy day. If the roots are exposed to the air five minutes on a dry windy day, the tree will be injured.

Tramp the soil firm about the roots. Tramp it continuously from the bottom of the hole upward. After the tree is set, spread an inch or two of loose soil over the top around the trunk to avoid baking of the soil and prevent drying out.

Cut back the tops as soon as possible after setting. If the tree is a one-year-old and has no side branches, simply cut the top back to the proper height, usually 24 to 30 inches. In case of peach trees, trim to a single whip by cutting off all side branches, shorten the main trunk to 30 inches in height. The strong new branches sprout out readily from the main trunk of a peach tree. Prune a cherry tree by thinning out its limbs so as to leave from three to five main spreading branches. Do not shorten permanent limbs of the cherry tree. The cherry tree starts readily only from terminal buds and will not readily produce branches from its main trunk. Apples and pears should be pruned back by shortening the main limbs from one-third to one-half.

Trees should be "heeled-in" if they cannot be planted out as soon as they are received from the nursery. To "heel-in" trees dig a trench 1 foot deep, throwing out the earth to one side as if turned by a plow. Place the trees side by side with their roots in the trench and their tops leaning over the turned-out earth at an angle of 45°. Spade in earth over the roots and tramp it firm. In moving earth to cover the roots a second trench is made parallel with the first. More trees may be "heeled-in" in this second trench. This may be repeated so as to finally leave the trees in a compact block rather than in a single low row.



An Attractive Group of Farm Buildings

Bacteria in Relation to Soil Fertility

T. L. Hills

When considering the soil one is not apt to realize that it is the home of millions of very small plants called bacteria and were it not for these tiny organisms the soil could not produce any crop. These bacteria are the means whereby the food already present in the soil is prepared for the growing crops.

When bacteria are mentioned one first thinks of disease. To be sure, many of our diseases are caused by bacteria but the number of these kinds is comparatively small. Almost all of the bacteria in the soil can be called our friends.

Bacteria are very small, ranging from 1-50,000 to 1-1,000 of an inch in length. But they more than make up for their small size by their great numbers in the soil. An ordinary sandy soil will generally contain about 2,000,000 per ounce but after some attention has been given to its cultivation the number of bacteria may increase to over 100,000,000 per ounce.

It is therefore evident that the greatest care should be taken on every farm to maintain conditions satisfactory for the best growth of the beneficial bacteria in the soil. Govern the moisture conditions by proper drainage or cultivation and the temperature will take care of itself. Loosen a tight soil and compact a sandy one to give the bacteria the right amount of air and turn under enough green or stable manure to furnish food for them. Never allow the soil to become "sour" but, if this condition should occur, add lime to prevent it.

Under the proper soil conditions as outlined the bacteria will change the plant food in the soil in such a way that it can be taken up by the growing crop. The relation between bacteria and soil fertility is very close and if proper conditions are maintained for the growing of crops these same conditions will be satisfactory to the bacteria in the soil.

Making a Garden Roller

I took an empty fifty pound lard can, made a small hole in the bottom and placed a piece of half inch iron water piping down through the hole and into the ground three inches allowing it to extend an equal distance above the top of the can. I then filled it with good rich concrete and allowed it to harden for several days. Next I took two pieces of two by four, five feet long and bored a hole in one end of each piece to correspond to the ends of the rod that projected, placed a thin washer on each rod put the handles on and nailed several cross pieces on to hold them in place. The result is I have as good a garden roller as my neighbor's that cost many times as much as mine.

I did not care if the can did stay on but if it were desired to take the can off all one would have to do is to grease the inside of the can before putting in the concrete and it can be easily removed.

I was careful to agitate the concrete next to the can so it would set smooth and be a dirt shedder when the can rusts off. I am a recent subscriber to Green's Fruit Grower and now realize how much I have missed by not having it in the past.—H. L. W., Ill.

Salt As a Fertilizer

In old times it was thought absolutely necessary to salt the soil every year in order to succeed in growing asparagus. We never used to think of applying salt as a fertilizer for any other product. Now the question is being raised: Is salt a fertilizer, or does it in any way help the growth of any class of plants?

We are all full of notions. The world will never be free from false theories. Some may experiment with salt and secure a good crop of a certain product and may ascribe the result to the benefit of salt, whereas salt had nothing to do with the increased crop. His neighbors hear of it and, with similar experience and later on all the soil workers of that locality are using salt hoping to secure larger crops, thus salt has been applied to asparagus, to celery, various farm crops and to grass lands. It is held by some experimenters that salt acting as a solvent frees the hitherto unavailable potash in the soil. The lesson is toward the truthfulness of this assumption, but it has not been proved. The fact is we have had no experiments thorough enough and long enough continued to enable us to state positively that salt is of any value whatever in aiding the soil to produce a larger crop of any product.

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Apple Growing in North and South

The apple belt of the United States extends from points in Canada to the foothills of the Blue Ridge mountains of Georgia and other southern states, says J. Wm. Firor in Southern Fruit Grower. In the Cyclopaedia of American Horticulture the statement is made: "The most perfect apple region of this country—considering productiveness, quality, long keeping attributes, longevity of trees—is that which begins with Nova Scotia and extends to the west and southwest to Lake Michigan." Going north of this region the apple is facing colder and colder conditions of winter, the farther the distance; while going south just the opposite conditions are brought forth. Any discussion as to the adaptability of the apple necessarily should be made with a correct comparison of the section under discussion with the region where apples naturally do best. Since the state of New York lies in this region and since it is the leading apple producing state of the United States, it is a good one with which to compare the apple growing of the South.

The orchards of New York are numerous and the majority of them are over 25 years old. Apples have been grown in that section ever since it was settled; the first orchards having been planted for cider making of which the first white inhabitants drank often and seemingly enjoyably. As a consequence the trees, although often planted in well laid out orchards, were allowed to shift for themselves and grow according to the vagaries of nature, and it was believed that any sort of apples made good cider. In spite of a lack of attention orchards of that day and time reached a ripe old age, showing that the section was exceptionally well adapted. As is usually the case, the crop which naturally grows best receives the least attention and so it was and still is to a great extent in such sections as represented by New York state.

While the apple orchards of New York state are old and well established those of the south are young. A survey of Ontario county, N. Y., one of the important apple growing counties of that state, shows that 79 per cent of the apple orchards are over 30 years old. If we take north Georgia as an example, there are only a very few commercial orchards over fifteen years old. No doubt the first white settlers of the South brought apple seed along and planted them. Yet, the orchards did not develop as they did in New York state, mainly, it must be concluded because the apple was not as well adapted to the conditions that prevailed in the South as it was to those of New York state.

It has only been during the last fifteen years that apple growing has taken on commercial importance in north Georgia and other southern sections of similar climatic conditions, although the farther north we go the greater and greater become the number of commercial orchards and the older and older the trees in those orchards. Such states as Maryland, Virginia and Kentucky have been of importance in the production of the apple for a long time.

Where Have I Seen You Before?

In the Land of the Hereafter two spirits met, one a tall, strong and beautiful angel, the other a small, weak angel filled with fear and foreboding.

"Isn't it dreadful here," remarked the fearful angel. "I feel so lonesome and everything seems so dreary and strange."

"It seems very beautiful to me, just what I have been looking and longing for," replied the beautiful angel.

"Let me keep close to you then and take me by the hand for I am afraid. When I dwell in the world I had a magnificent residence with many servants and every wish gratified. I was a grand lady then. I cannot understand at all this. But tell me who you are. It seems to me I have seen you somewhere before."

"I was your washerwoman," replied the beautiful angel.

Words of Wise Men

Whatever the number of a man's friends, there will be times in his life when he has one too few; but if he has only one enemy he is lucky indeed if he has not one too many.

Light is sweet, and a pleasant thing it is for the eyes to behold the sun. But darkness is sweet, also. Perpetual sunshine would be no boon for man. Light is only available for life when it is tempered with shadow.

Pure light would wither us with its fervent blaze. So joy is enhanced by sorrow.

One of the mistakes that poison home life is the unwillingness to yield in unimportant trifles. The desire always to have one's own way is very far from the way of life.

Our daily habits carry in them the buds and prophecies of our future character. The question is not what point have you attained, but which way are you tending.

Words of piety, allied to a catching tune, are like seeds with wings—they float out in the air and drop in the odd corners of the heart, to spring up in good purposes.

The middle-aged, who have lived through their strongest emotions, but are as yet in the time when memory is still half-passionate and not merely contemplative, should surely be a sort of natural priesthood, whom life has disciplined and consecrated to be the refuge and rescue of early stumblers and victims of despair.

There are thousands of persons in our own society who think it essential to teach their children arithmetic, but pernicious to instill into their minds a love of poetry or art. They judge of education by the test, will it pay? Can this attainment be turned into money? The other question, will it enrich the nature of the child and of the man? is not asked.

The successful man is he who has health, wisdom, honor, love and hope; and the "richest man in the world" is he who has the most of these blessed possessions.

Famine and Fertilizers

Increasing production from Germany's not too fertile soil has been mainly due to imported fertilizers. Germany has imported 20 per cent of her foods, all her coffee, the rice, vegetable oils, even some potatoes. She has imported 1,853,000 metric tons of fertilizers, 7,295,000 tons of food for animals, 1,411,000 tons of oil yielding seeds—10,000,000 tons and more of "actual and potential manure." All this is cut off. The use of war bread has decreased the supply of bran for cattle.



It Proved Itself The Greatest Car That's Built

Men ask why we race the Super-Six. Why we win so many records in hill-climbs and endurance. They say they don't want racers, and don't care for super-power.

Of course you don't. But you want to know which car excels when you buy a car to keep. And the only way to compare cars is through maximum performance.

The Super-Six is a light Six. In size and looks there are many Sixes like it.

But a Hudson invention—patented—added 80 per cent to this motor's efficiency. On that account, the Super-Six has won all the worth-while records. In a hundred tests it has outperformed all types of rival motors. So today it stands unquestioned as the greatest motor built.

It holds the speed records for stock cars. It holds the chief endurance records. It won the world's greatest hill-climb.

It did that because friction is almost ended in the Super-Six. Friction is what limits performance. It wastes the power, and wears the motor parts.

By minimizing friction the Super-Six invention has almost doubled endurance. And that is what you want in a car.

In Hudsons Only

The Super-Six motor is found in Hudsons only. It has made the Hudson the largest-selling fine car in the world.

The Hudson Super-Six comes in body styles which mark the very pinnacle of luxury. It comes this year with a new gasoline saver. With a patent carburetor, self-adjusting to every engine speed.

The Hudson Super-Six now stands supreme. It probably always will. Prove these facts before you buy, else you will have regrets.

HUDSON MOTOR CAR COMPANY, DETROIT, MICHIGAN

Phaeton, 7-passenger, . . .	\$1650
Cabriolet, 3-passenger, . . .	1950
Touring Sedan	2175
Limousine	2925
Limousine Landaulet	3025
Town Car	2925
Town Car Landaulet	3025

All prices f.o.b. Detroit

Hudson Super-Six



Letters From Our Readers

"Prudent questioning is the half of knowledge."—Proverb

Farms in New York State

We have a ten acre fruit and poultry farm in the suburbs of our home town here and were thinking of selling this and buying a larger farm in New York State. Do you think that a person could realize more money from a farm in the east? Land in this section is so valuable that it does not in any instance pay more than 4% on the investment. If land is really valuable in New York state, how does it happen that it does not sell for more money. I am referring to Delaware Co. especially. We are dickering for a farm of three hundred acres said to be almost level, with maples worth \$2,500, an eighteen-room house, a new \$4,000 basement barn, several other buildings, also 4 horses, 47 cows, other stock and all tools, at \$40 per acre. \$3,000 cash, balance on easy terms at 5%. Now there are many other farms at such figures. To us westerners there seems to be a nigger in the woodpile, but being that you know about New York, please tell me your opinion of these Delaware and Madison Co. farms. Also could a person with about \$6,000 cash go on this place and make a living and pay the balance on the place beside, also do you think a tractor would be a feasible thing on these farms?—W. A. A., Ind.

Dear Sir: Many of these places have been owned by farmers who have made their fortunes and moved into the cities to educate their children and spend the balance of their lives in comfort. Some of them have been rented to tenants, but this is, as a rule, found to be unsatisfactory.

Only yesterday I was reading in the book sent out by the Department of Agriculture, Albany, New York, entitled, "Farms for Sale or Rent in New York State." This book is free for the asking and it gives you a long list of the farms in the different counties. Some of them would make excellent fruit farms and some of them are already planted to fruit. You will find that those already planted are rated much higher than the old style farms which have not yet been devoted to the most profitable kind of agriculture, namely fruit growing.

While it is true that the famous fruit belt of New York State is along the shores of Lake Ontario, it is also true that Pennsylvania, without any large body of water, is the second largest state in the Union in the production of apples. Does this not indicate that many of these farms removed from Lake Ontario or any other large body of water can be converted into fruit farms and therefore be made to pay a much bigger rate than they render now?

Many of them have for years been devoted to dairying which also is a good and profitable feature of farming.

Orchards could be planted and are being planted on many of these farms which are still used for dairying purposes and old line farming.

It is undoubtedly true that it is a principle function of the western farmer on his thousand acre lot to grow grain, doing his plowing with tractor and gang plows. His harvesting must be done on the same scale if he expects to make money with grain crops.

It is our opinion that the man on the smaller farm who does not plow 18 furrows at a time can not afford to devote his time to growing grain crops. It is his principle function and most profitable one to grow fruit first of all, enough grain for his own use and feed, poultry, garden truck and dairy products.

The eastern farms are in the midst of the largest markets in our country and the prices that are being paid for the more perishable farm products like fruit, poultry, eggs, milk, cream, butter, etc., indicate that there is yawning demand for articles fresh from the farm. We also believe that many of these articles will in the future go direct from the farmer to the consumer.

Much has been written on this subject and much has already been done. It is a lamentable fact, however, in many of the cities in New York State that the farmer is not permitted to peddle his products in the cities without paying a "tribute to Caesar." This political hold-up must in the end be done away with and the immediate necessities of life, which must come to the consumer fresh from the farm and in first class condition, will be supplied by the grower

Our Personal Service Department

Green's Fruit Grower has remarkable facilities for doing personal service for subscribers. Any person who is a paid in advance subscriber for Green's Fruit Grower and writes us enclosing a two cent stamp, will get a prompt reply, no matter what the subject is, but we assume that questions will be mainly in regard to fruit growing and to the purchase of lands and advice as to where best to locate. It is possible that a subscriber may get information that may be worth to him \$100 or even \$1000.

Please bear in mind this Personal Service Department of Green's Fruit Grower. When you write us be sure to enclose the address label from a recent copy of your paper showing that you are a paid in advance subscriber. If your subscription is not paid in advance, send a dollar with your question, to renew your subscription for three years. Address Personal Service Department, care of Green's Fruit Grower, Rochester, N. Y.

direct to the consumer without going through the hands of middlemen and without paying high licenses for the privilege of getting a livelihood and performing his natural function.

It would pay you well to look carefully into the opportunities offered in New York and other eastern states and we shall be glad to help you in any way. We would also suggest that you write the New York Central Farm Department, Grand Central Station, New York City. They can undoubtedly put you in touch with some very desirable places at moderate prices.

Soil For Pears

Will you kindly inform me as to what soil or situation is supposed to be the best suited to pears? Can they be grown successfully on a lot, nearly flat, partly light, sandy loam and partly gravel? Can they be grown on low land or should they be grown on high land? Also please advise me what land is best suited to growing plums.—E. M., Conn.

Reply: I have seen pear trees bearing heavy crops of fruit on various kinds of soil, varying from sandy, loamy, to hard clay. My experience is that if I could have my choice I would select soil that had some clay in it, and would not select a very sandy soil for a pear orchard. I prefer high land to low land for all kinds of fruit, including plums. Plums succeed on almost any fertile soil. No fruit trees will grow so thriftily and be so long lived when planted on light sandy soil lacking in fertility.

Old and New Blackberry Canes

Mr. C. A. Green: I have never been a farmer but I have recently bought a six-acre farm on which are 40 apple trees: Baldwin, Spy, and others of which I do not know the names. I understand something of fruit culture, poultry raising and horticulture.

I would like advice about blackberry bushes. How can I tell old canes from new? Should they be cut level with the ground? Shall I use a pruning knife, or what tool do you recommend?

I want to plant a good deal of fruit, and wish you would tell me the kinds that are best adapted to Vermont, also the ones that are marketable.—Mrs. V. M., Vermont.

Reply: All canes on the blackberry plants at this time are new canes except the canes that bore fruit last year and which are now dead. These old dead canes should be removed leaving all others. Notice that the new canes of this year on the blackberry and red and black raspberry will bear the crop of fruit next year and will then perish,

leaving alive at the beginning of winter only the new growth of the coming season.

Generally speaking, you need hardy varieties for Vermont, such as Snyder blackberry, Kansas black raspberry and Herbert red raspberry.

Grapes.—How far apart would you plant grape vines and to what height should you let them grow?—R. S., Pa.

Reply: In vineyards grape vines are planted 9 feet apart in the row with the rows 8 to 10 feet apart. The distance between the vines should be varied according to the vigor of growth of the variety. Notice that the slow grower like Delaware will not spread over as much surface as a rapid grower like Concord or Niagara. If you have limited space in your garden and desire to plant a row of grape vines they can be planted 4 feet, 6 feet, 8 feet or 9 feet apart in the row and bear fruit profusely. A grape trellis is usually not higher than 5 to 6 feet, but in your home garden or when trained up the side of your house or over your house, a grape vine may be allowed to grow as high as it will. On my dwelling house a grape vine bears a large portion of its fruit as high as the second story roof.

No one can so easily improve the appearance of a home as by planting grape vines over arbors, thus creating a welcome shade and making a playground for the children, or by planting the grape vines close to the sides of the house, barns and other buildings where they can be trained over the side of the building. Grape vines thus planted are not only objects of beauty, but the planting would be made principally for the delicious fruit that could be secured. A row of grape vines across the kitchen garden will be attractive and desirable.

Buying a Farm

Editor Green's Fruit Grower: I take the liberty of writing you to ask what a good farm can be bought for near Rochester, as my son has sold his farm and is looking for a place to locate. If you cannot give us any information, can you refer us to some one who can? What do you think of the cheap farms that are advertised with so much personal property thrown in? Are any of them good for anything?—H. G., Wisconsin.

Reply: A cheap farm is liable to be a poor investment, the same as a cheap horse, a cheap cow, a cheap harness or wagon. The fact that the owner of a farm will sell it at a low price, throwing in personal property, is an indication that he has not been able to make his farm profitable. Those who have fertile farms for sale, well located, do not as a rule find it necessary to throw in personal property in order to make a sale. My experience is that low priced farms are located outside of the fruit growing belts in rather hilly or mountainous sections and are principally grazing lands, which often require draining, and which are equipped with poor or run down buildings, and are not located favorably as regards schools, churches and neighbors or nearby markets.

The prices of farms in the vicinity of Rochester, N. Y., extending ten or twenty miles distant from the city, will vary in price from \$100 to \$200 per acre with exceptional high prices of \$500 or \$1000 per acre for farms planted to profitable orchards. Farms all over the country are advancing in price owing to the high prices obtainable for farm produce. Whether high prices will be maintained after the war is over no one can say.

Bone Meal as a Fertilizer

Editor of Green's Fruit Grower: Do you consider it an advantage to scatter bone meal around peach trees every spring and if so how much would be proper to put around trees 3 to 5 years of age?

The trees make splendid wood growth every year. Does the bone meal assist the growth of the wood or are its chief effects shown in better fruit? If spread in the spring does it become at once available for plant food and if not when would it be available?

I buy practically all my nursery stock in Rochester and have had splendid success

16 ⁹⁵ ^{ON TRIAL} ^{Upward} **American** **SEPARATOR**

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MYERS RIGHT ANGLE GARAGE TRACK

I thank you in advance for your kindness in answering above questions.—A. W. H., Mass.

Reply: If your trees are making a good growth as you intimate, there is no necessity for the application of any fertilizers. Bone meal is not so rapidly absorbed by the roots of trees or plants as some other forms of fertilizer. Bone meal lasts some time in the soil, continuing to feed the roots of the trees. It assists the wood growth and has a beneficial effect upon the fruits as a natural consequence. Trees planted three to five years do not need fertilizing on fairly rich soil capable of producing a crop of corn or potatoes.

Birds Get Cherries

Mr. Charles A. Green: My small home of about six acres is now so much covered with buildings, fruit trees and nut trees that I have to spend some time in hunting for a corner to put another tree or shrub into.

I have my troubles as well as everybody, one of which is to get any cherries from my trees, and I am asking you if you know of any way to get ahead of the robins with cherries. Now, I always was a lover of birds and want them around my orchard, but I tried my best to get a few cherries last year but did not get a single quart, although I had six trees that must have had at least three bushels of cherries on them. Two trees I covered with netting, almost entirely, but they would get inside of the netting in spite of me, and cleaned the cherries entirely out. Is there anything that will keep them away from a tree?

I have about four hundred trees on my place, about 45 different kinds of apples, many old trees having four or five varieties in the same tree, nine different plums, seven different cherries, four peach, a pear hedge and several old pear trees, grapes, currants, raspberries, strawberries, gooseberries, blackberries, walnuts, chestnuts, pecans, butternuts, hazelnuts and ornamental shrubs and flowers too numerous to mention, yet I market nothing except raspberries. Will you kindly tell me what I can do to get a few cherries away from the robins?—C. R. C., Maine.

Reply: While I get thousands of letters every year asking me for remedies and for the solution of fruit growers' problems, I get few letters like the above telling of damage to the cherry and cherry crop from wild birds. A Green's Fruit Farm we are partially surrounded by timber lands. In addition to this there are orchards. You would think that if anyone is to be disturbed by birds we would be among the number, and yet the birds have done us scarcely any perceptible injury. At Rochester, N. Y., I am similarly situated in the suburbs, but the birds do not consume much of the fruit. The cherries are more sought by birds at our city home than on the fruit farm. I have seen localities similar to those of Mr. Combs where for some unknown reason robins and other birds are disastrous not only to the cherries and strawberries but to grapes, in fact to nearly all fruits, so that a man has to be employed to drive them away. I have heard of toy windmills, bells and strips of white cloth being placed in cherry trees to drive away the birds but cannot say how effective these have been. I will ask the readers of Green's Fruit Grower to report if they know of any method of frightening birds away from cherry trees. Cherries are easily grown I have felt that if birds were troublesome I would increase my planting and welcome the birds to take all they can eat.

Good Varieties of Fruit For Michigan

We appreciate Green's Fruit Grower and look forward to its arrival at our house with pleasure. When it comes the time of the month for it to reach us, I come in the house and ask the good wife: "Has Green's Fruit Grower come?" If it has I hurry up the stairs, eat my supper and settle in for a good evening's reading. I would miss it more than any other paper we take.

As I have ten acres of land one mile from the city I am planning to set five acres out in apples, cherries and pears. This land is rolling enough to be well drained and is better than any around it and is clay mixed with some sand and small stones. At the north and west there is a shelter of timber. I have just bought it and hope to make it a

home for me and my wife to spend our remaining years there.

I notice that across the road from it there is an orchard that bears every year. The trees are old but seem to be healthy and the fruit from them is the best I have ever tasted, while other orchards around here are dying and a good many are cutting them down because they say it doesn't pay. I believe now is the time to set out fruit trees in our county.

This land is worth \$200 per acre. In your opinion would it pay to set it out to fruit and what kind of apples, pears and cherries would you advise me to plant? I want them for my own use and some to sell. You may print this if you like in the Fruit Grower.—W. H., Mich.

Thanks for your complimentary and encouraging remarks. There is a Michigan apple, a seedling of Fameuse or Snow apple, called the Shiawassee Beauty, which originated in Shiawassee county, Michigan, and which I can recommend to you highly as a very hardy tree and productive of brilliantly striped red apples of the highest quality. Baldwin and Greening are successful in your state. I would not plant too many varieties. Wealthy is a profitable apple of brilliant color, also McIntosh Red. Duchess of Oldenburg is one of the greatest summer apples of the world.

In cherries Early Richmond for early and Montmorency for late are good selections. This class of cherry is more easily grown than the sweet cherry either white or black, of which Napoleon and Black Tartarian are popular varieties.

Dwarf Pears

About a year ago I purchased a small farm of twelve acres, with a view of making a home of it. I have a pear orchard of nearly three acres, about five years old, with nice shaped tops, most of them, but they don't seem to do very well. In the spring and fall they seem loose in the ground. I am inclined to believe that while the soil is clay loam, the sub-soil is too hard for the roots to take hold. Could those trees be reset and would it be advisable? Some of my neighbors think they were not properly set in the first place.—A. W. W., N. Y.

You do not say that your pear orchard consists of dwarf pear trees, but I assume that such is the case. Standard pear trees root so deeply and firmly they are not liable to be swayed by winds or to become top heavy, but dwarf pear trees are growing on quince roots which are not so large and strong as roots of the standard pear and do not penetrate the soil so deeply. I often see dwarf pear orchards that are swayed as you suggest by the wind and are leaning. The remedy is to cut off the tops of these dwarf pear trees, reducing the height possibly one-third. After this heading back, which should be done before the tree leaves out, straighten up the tree and bank it with earth, treading the earth about the base of the trunk. There are many fruit growers who do not realize that dwarf pears should be continually headed back and kept by pruning in a way to suggest that they are dwarf pears and not standard pear trees. Dwarf pears should not be allowed to grow nearly so tall as standard pear trees. But even standard pear trees are benefitted and are more fruitful by having the top branches cut off to prevent their growing abnormally tall, in fact all fruit trees in the hands of skillful orchardists are snubbed in their efforts to go skyward by the annual or frequent removal of the stockiest upright shoots.

Growing Raspberries in New Hampshire

After reading the short article in the March number about raspberries winter killing by W. V. L., of Ky., I felt just like giving a word of encouragement.

In the first place, I think two years is not a fair length of time to expect big returns, as it takes several years for plants to make a good stand. It has been my experience that fall pruning will cause canes to die back one-third to one-half of what remains. I nip off tops, when canes have attained desired height thus causing them to branch. I also consider it necessary to ridge up rows to prevent ice in winter doing much damage. My experience has been mostly with London red raspberries, my first patch being started with one hundred plants, all but eleven of which died the first winter. I saved all the

increase of those eleven not feeling able to buy more plants. At the end of four years the bed had yielded enough to pay for plants, a thousand baskets, fertilizer for each year and \$40 for my work which I did myself, often picking and marketing \$3 worth in a single day.

I sold berries to retail customers at 10 cts. per pint. Often they were engaged three pickings ahead and once a canning order was booked for the following year.

When we decided to sell our small place and buy a farm, I sold eleven dollars worth of plants, bringing the cash income up to \$51, which we thought very good indeed, for a patch this size.

At present we have a thousand or more plants from which we expect to supply a summer resort in fresh fruit this season.

I have found that spring pruning of canes will make them branch, and the new canes will bear fruit in fall thus prolonging the picking season, and doing away with buying a special kind of everbearing raspberries.

Give your plants a fair trial of say five years and then write us again for we believe you will have a better story to tell us.—Mrs. A. C. R., N. H.

Black raspberries are an important crop in many parts of this country. The fruit is used not only for selling fresh picked, which is the principal demand for it, but is grown for evaporation to be used not only as food, but as a product of dyeing or coloring, the stain of the juice of black raspberries being remarkably durable. In some sections of the country the berries are allowed to remain on the bushes until nearly all are ripe and dead black, at which period the berries are beaten off the bushes with sticks and

clubs into an apron-like receptacle. In such instances leaves and other refuse come off with the berries to a moderate degree, therefore, the fruit must be looked over and the refuse removed before going to market. Sometimes the berries are evaporated, leaves and all, and the refuse blown out by running the dried berries through a fanning mill. But in most instances the berries are picked once or twice a week as they ripen, the same as though they were to be marketed in fresh condition without refuse.

There are sections of New York state where the growing of black raspberries is a large and profitable industry and where several hundred acres of berries are planted and harvested with profit. This is not a new industry. It has been followed with profit for many years. Red raspberries or the purple raspberries are not considered profitable for evaporation.

Keep the cows out in a sunny, protected yard on pleasant days. It makes them more thrifty, and besides, out-door cattle do not have tuberculosis.

Only \$2 Down One Year to Pay!

\$24 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Slices 50 quarts per hour. Made also in five larger sizes up to No. 5 shown here. Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "Direct-from-factory" offer. Buy from the manufacturer and save money.
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They have CUTAWAY (CLARK) cutlery steel disks, forged sharp. Close up into a regular harrow for field work. Light in draft. The single action is reversible. If your dealer has not the genuine CUTAWAY write to us direct. Be sure to write for our new free book, "The Soil and Its Tillage." Get your copy now.

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Woman's Dept.

Rock Me to Sleep

"Backward, turn backward, O Time, in your flight,
Make me a child again just for tonight!
Mother, come back from the echoless shore,
Take me again to your heart, as of yore;
Kiss from my forehead the furrows of care,
Smooth the few silver threads out of my hair;
Over my slumbers your loving watch keep,
Rock me to sleep, mother, rock me to sleep."

—Elizabeth Akers Allen

Buttermilk and Some of Its Many Uses

At the present high cost of living I deem it more economical to use most of the milk towards making butter and use much buttermilk in cooking.

Nearly all of my cakes, dumplings and biscuits are made with buttermilk as well as Johnny Cake.

Baking powder biscuits and dumplings are made just as when I use sweet milk but in place of sweet milk I use buttermilk with $\frac{1}{4}$ teaspoon of soda dissolved in each cupful.

We are very fond of buttermilk potcheese and it is so rich we use it in place of butter—to make—pour whey off from rather sour buttermilk, set the rich buttermilk on back of range, stir occasionally, and when curd is somewhat toughened strain through a coarse towel, add generous amount of salt. Use whey for pancakes.

For loaf cake make as follows:

1 cup granulated sugar, compound size of a duck's egg, 3 tablespoons cocoa, 1 cup buttermilk, $\frac{1}{4}$ teaspoon soda, 2 teaspoons baking powder; flour to stir stiff, before placing in oven sprinkle granulated sugar over top.

By leaving out cocoa raisins may be used for a change, or citron or spice added, stir stiffer and make drop cakes.—Mrs. B., N. Y.

HOUSEHOLD HINTS

Strawberries are delicious preserved in maple sugar.

A cream cheese and watercress sandwich is a delicious dainty for the May picnic basket.

Never put salt into soup when cooking until it is skimmed as salt prevents the scum from rising.

Sprinkle the clothes with hot water. They will iron more easily and have a smoother finish.

Wash matting in warm water containing a pint of salt to a gallon of water and quickly rub it with a clean dry cloth.

If milk is used in mixing mustard instead of water it will keep fresh for several days.

To soften fruit jar rubbers, put ammonia in warm water and let them stand in it for ten or twenty minutes.

To remove grease from silk rub a lump of wet magnesia over the spot, allow it to dry and then brush off the powder.

Cream soups are always thickened, and sometimes made of vegetables and fish, with milk and cream and a little seasoning.

Don't depend upon extra heat when you want water to boil quickly, but add a little salt to the water and watch the gratifying results.

White mosquito netting or old pieces of lace curtains stitched together make excellent dish cloths.

Try boiling roast veal or pork until partly done and then put in the oven to brown. It is better and will not shrink away as it would if placed directly in the oven to roast.

If by accident you get into the fly paper a

cloth saturated with gasoline, ammonia, alcohol or kerosene will remove the stickiness.

Did you ever try using a newspaper as a dress or coat hanger when away from home? Roll the newspaper tight and tie in the middle with string leaving the loop long enough to hang it up by. This answers the purpose and is quickly adjusted.

When next you serve clam bisque add a spoonful pimento cream to each cup before serving. Drain canned pimentos and force through fine puree strainer enough to make two tablespoonfuls and add to one-half cupful of heavy cream beaten stiff, and the beaten white of one egg with a few grains of salt.

Stains upon tablecloths and napkins may be readily washed out if borax is put in the water. A little borax water boiled in the coffee pot twice a week for fifteen minutes sweetens and purifies it.

Clean mirrors with ammonia water. Do not let the direct rays of the sun fall on mirrors if it can be avoided, as they effect the metallic coating on the glass.

When running dates, figs or raisins through the food chopper add a few drops of lemon juice. It will do much toward

preventing the entrance of the moths. In these packages can be placed such repellents as tobacco dust, camphor, naphthalene cones or balls, and cedar chips, etc. The odors of these substances are disagreeable to the parent moths and act as a repellent, but they will not kill eggs or larvae which may be enclosed in the packages. Hence the necessity of the thoroughgoing cleaning and airing prior to packing away. The same precautions are needed with cedar chests and wardrobes.

TESTED RECIPES

Rhubarb Pie. One and one-half cups rhubarb, seven-eighths cup sugar, an egg, two tablespoons flour. Skin and cut stalks of rhubarb in half-inch pieces before measuring. Mix sugar, flour and egg, add to rhubarb and bake between crusts.

Rhubarb Tapioca. Soak 1 cup of tapioca in 2 cups of boiling water for an hour or so, then add 1 pint of boiling water and cook till the grains are clear. Remove the tapioca from the stove, sweeten to taste and let cool, then add an equal amount of cooked and sweetened rhubarb and blend well together. Let cool and serve with cream.

Rhubarb Shortcake. Make a crust as for strawberry shortcake and fill with rhubarb prepared as follows: Cut rhubarb into inch pieces and cook in the double boiler, without stirring until the rhubarb is tender, allowing one cup of sugar to every pint of rhubarb. Pour the juice of the sauce over the shortcake and serve at once.

Coffee Cake. 1 cup butter, 1 cup molasses, 4 cups flour, $\frac{1}{2}$ lb. raisins, 1 teaspoon cinnamon, 1 cup sugar, 1 cup cold coffee, 2 teaspoons baking powder, $\frac{1}{4}$ lb. citron, $\frac{1}{2}$ teaspoon cloves, $\frac{1}{2}$ teaspoon

half pounds of citron, two teacups of black molasses, two teacups of wine, one cup of brandy, two grated nutmegs, two tablespoonfuls of cloves, two tablespoonfuls of allspice, one tablespoonful of cinnamon. Before cutting the citron boil it, then use the water the citron was boiled in to put in the cake. The one-quarter of a pound of flour is used to roll the fruit in. At the last add one gill of milk and two teaspoonfuls of baking powder.

The First Fruits to Can

Rhubarb. Before canning your rhubarb be sure the jars are sterilized as are also the lids and rubbers. Do not dry any of these with a cloth however clean it may be. Rinse with boiling water to which you have added a teaspoonful of borax to a gallon. Cut the rhubarb into inch pieces and then place in the sterilized jars under a stream of cold water for about two minutes. The rubbers and lids are then put on and sealed. When opened the rhubarb will be as crisp and fresh as when canned.

Strawberries. In canning your strawberries this year try placing the berry which must be firm directly in the sterilized jar and pour over them a heavy syrup which you have boiled for some time.

USE OF SPRING ONIONS

Valuable Addition to Diet—Served in Salads or Cooked as Greens

The onion is an important vegetable, not only because of its direct food value, but also because it is a common and most useful seasoning for a great variety of foods. Like all succulent vegetables, however, it is low in nutritive value, containing, as it does, about nine-tenths water and only one-tenth food substance. Nevertheless, the material it contributes is well worth having. The onion owes its flavor to a pungent, oil-like substance containing sulphur, and it must not be overlooked that sulphur is an important mineral element, which the body needs.

At this season of the year one of the welcome additions to the diet is the spring onion. It is commonly eaten raw and may thus form part of a salad, or it may be cooked and served in a variety of ways. A little soda (one-fourth of a level teaspoonful to a dozen onions) should be added to the salted water in which they are cooked. Housekeepers frequently use a little of the finely chopped tops for seasoning salads, etc., particularly when onions are very young, but more generally the tops are thrown away. According to the home economics experts of the department this should not be done, as they make a very palatable dish when properly cooked. The tops, including any of the white portion of the stalk which one does not wish to cook with the onions, should be washed several times, cut into pieces one half to an inch in length, and cooked in salted water to which baking soda in the proportion of one-fourth of a level teaspoonful to 2 quarts of the cut-up "greens" has been added. As soon as the onion greens are tender, pour off the water in which they were cooked, add butter, heat thoroughly, and serve on buttered toast. If one wishes a more substantial dish, it is easily made by putting a poached egg on top of each slice of toast and onion greens. Onion tops thus cooked are tender and, contrary to what one might expect from their pronounced odor when raw, are very mild in flavor as well.

The onions may be cooked with the greens or may be cooked and served separately, at the housekeeper's convenience. They add to the attractiveness of the dish if served on a bed of onion greens on toast. They are also very palatable buttered and served on toast like asparagus. In this case it is usual to cook with the onion all of the white stalk that is tender.

Serving green vegetables on toast is as economical as well as a palatable method. It makes the vegetable "go further," adds considerably to the total food value of the dish, and is one more good way of using stale bread.

Dandelion Greens

There are several ways of serving dandelion greens in appetizing forms. They should always be thoroughly washed to remove all dirt after being carefully looked over and all of the roots, poor leaves, stalks, etc., removed. Have the greens boiling and well salted, when the greens are put on to cook. Let boil rapidly until tender, having only enough water to cover them. Many use a small piece of salt pork for flavoring. These greens are valuable



An Arbor Day Planting

preventing the fruit from clogging the chopper.

If you are fond of pumpkin pies and have no pumpkins, have you ever tried substituting carrots? Cook and prepare them the same as you would the pumpkin, and you'll find it hard to tell which is the better.

No one enjoys washing the broiler of the gas stove. This unpleasant task may be avoided if chops or small steaks are placed in tin pie-plates and set on the broiling grate. The meat is cooked just as well and the plates are easy to clean.

If stoves are put away for the summer they should be put in as dry a place as possible in order to prevent their rusting. It is a good plan to leave ashes in the stove as they will absorb the moisture and thus help prevent the inside of the stove from rusting.

Summer Care of Woolens and Furs

Woolen clothing and furs, etc., may be packed away safely for the summer by enclosing them in several wrappings of paper or in well-made bags of cotton or linen cloth or in paper sacks which can be

nutmeg. The fruit in this is much a matter of choice, dates or figs may be substituted.

Snowfalls. To two beaten eggs add one cup sugar, three tablespoons melted butter, level, one cup sweet milk, two teaspoons baking powder, salt and nutmeg to taste, and flour to mix, with spoon only. Let dough chill, then roll half an inch thick. Cut with a wineglass, making a hole in centre with thimble. These should puff up into perfect spheres, and when rolled in powdered sugar look like a delicious kind of snowball.

Angel Food. The whites of ten eggs, one and one-fourth cups granulated sugar sifted, one cup of flour sifted, one-half teaspoonful of cream of tartar, a pinch of salt added to the eggs before beating. Use a wire egg beater and a large platter. Beat the eggs about one-half, then add the cream of tartar and beat till very stiff. Stir in the sugar a little at a time, then the flour very lightly; flavor. Bake in a moderate oven from thirty-five to fifty minutes.

Wedding Cake. One pound of butter, one pound of black sugar, one and one-fourth pounds of flour, twelve eggs, six pounds of raisins, five pounds of currants, one and one-

2057—Ladies' Skirt 40, 42, 44 and 46 inches long. Price, 10 cents.
2061—Boys' Russian 6 years. It requires 3 1/2 yards of 44-inch and 2 5/8 yards of 44-inch material. Two separate patterns.
2062—Ladies' Apron Large and Extra 36-inch material. Price, 10 cents.
2063—Girls' One-Piece 6, 8, 10,

Patterns for Women Who Sew.



2047—Ladies' Shirt Waist. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 3 yards of 44-inch material for a 36-inch size. Price, 10 cents.

2047-2049—Ladies' Costume. Waist 2047 cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 3 1/8 yards of 36-inch material for a 36-inch size. Skirt 2043 cut in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 3 yards of 44-inch material for the foundation skirt and 2 5/8 yards for the tunic, for a 24-inch size. The skirt measures about 2 5/8 yards at the foot. TWO separate patterns, 10 cents FOR EACH pattern.

2051—Boys' Russian Suit. Cut in 4 sizes: 3, 4, 5 and 6 years. It requires 2 1/2 yards of 44-inch material for a 5-year size. Price, 10 cents.

2052—Ladies' Apron. Cut in 4 sizes: Small, Medium, Large and Extra Large. It requires 5 3/4 yards of 36-inch material for a Medium size. Price, 10 cents.

2057—Girls' One-Piece Dress with Guimpe. Cut in 6 sizes: 6, 8, 10, 12 and 14 years. Requires 1 3/4

yards of 27-inch material for the guimpe and 4 1/4 yards for the dress for a 12-year size. Price, 10 cents.

2059—A Charming Negligee. Cut in 4 sizes: Small, Medium, Large and Extra Large. The Medium size will require 6 1/2 yards of 36-inch material. Price, 10 cents.

2060—Ladies' Skirt. Cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Requires 4 1/2 yards of 54-inch material for a 24-inch size. The skirt measures about 3 1/2 yards at the foot, with plaits drawn out. Price, 10 cents.

2062—Ladies' Waist. Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 2 1/2 yards of 44-inch material for a 36-inch size. Price, 10 cents.

2061-2063—A Charming Sports or Beach Costume. Blouse 2061 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 3 yards of 36-inch material for a 36-inch size. Skirt 2063 cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. It requires 3 7/8 yards of flouncing or bordered material 48 inches wide, or 4 1/2 yards of 54-inch material for a 24-inch size. It measures with plaits drawn out at the lower edge, about 3 3/4 yards. TWO separate patterns, 10 cents FOR EACH pattern.

2065—Ladies' Skirt in Raised Waistline. Cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. It requires 3 3/8 yards of 44-inch material for a 24-inch size. The skirt measures about 3 yards at the foot. Price, 10 cents.

Order patterns by number and give size in inches. Address Green's Fruit Grower Co., Rochester, N. Y.

as a spring tonic because of their iron content and are relished by nearly every one when properly cooked.

Dandelion Salad.—Select the tenderest leaves of young dandelions, wash well and drain, and lay them on ice to crisp, then put into a salad bowl, dress with salt, pepper, oil and lemon juice, and garnish with hard-boiled eggs.

Fight the Fly

Kill the first flies.
One fly lays about 150 eggs.
An egg becomes a grown fly in ten days.
Twelve to fourteen generations arrive in a season.

The progeny of one fly has been estimated as a sextillion in one season.

Consequently the killing of a single fly becomes an operation of considerable magnitude.

All breeding places of flies should be done away with, such as open garbage cans and decaying material.

LET NOTHING SPOIL

Heat, dirt, improper handling, flies, insects, and rats or mice are the greatest food wasters.

Keep Perishable Food Cold

Keep perishables cool, clean and covered. The moment meat, fish, milk and eggs are allowed to get warm they begin to spoil.

Bacteria and germs multiply rapidly in slightly warm food, and quickly make it dangerous or unfit to eat.

Keep perishable foods in the coolest, cleanest place you can provide, preferably in a good refrigerator or ice house, but, at any rate, in covered vessels suspended in the well, or in the coolest clean place in your home or cellar.

Do not keep perishable foods in a hot kitchen or pantry or in a sunny place a moment longer than is necessary.

Dry cold is a better preservative than damp cold.

Keep Food Covered and Clean

The dust particles in the air carry molds and germs.

Meat, fish and milk are ideal breeding grounds for such germs. Keep your food covered so that these bacteria and germs will have as little chance as possible to get on your food.

House flies—better called "typhoid flies"—are among the dirtiest things that enter our homes. They fly from sewers, privies and manure heaps, carrying filth on their feet, which they deposit on any food on which they light. Frequently germs of typhoid fever are carried by flies in the filth on their bodies, and in their excrement (fly specks).

Ordinary cleanliness demands that flies be kept out of our homes and away from our food.

Health protection makes it essential to banish flies. Keep all food covered, or at least screened from these carriers of deadly disease and filth. Destroy flies by every possible means.

Guard Food Against Vermin

Rats and mice destroy millions of dollars' worth of food and other property every year in homes, on farms and in business establishments. Many rats harbor the germs of bubonic plague. Trap and kill

them. Look upon every mouse as an enemy to your property.

Eradicate roaches and house ants. Keep weevils out of cereals.

Keep your food where such pests cannot reach it.

Keep household pets away from food.

Store Vegetables and Fruits Properly

Don't let fresh vegetables or fruits wilt or lose their flavor or begin to rot because they are handled carelessly. Keep perishable vegetables in cool, dry, well-aired, and for most vegetables, dark rather than light places.

Learn how to store potatoes, cabbages, root crops, fruits and other foods so that they will keep properly for later use.

Don't think that any place in the cellar or pantry is good enough to store food.

Heat, dampness, poor ventilation, bruising or breaking will rapidly make many vegetables rot, ferment, or spoil. Warmth and light make vegetables sprout and this lowers their quality.

Can or Preserve Surplus Vegetables and Fruits

When there is a surplus of fruits or vegetables that will spoil if kept, cook or stew them and keep them cold and covered for use in a day or two.

Can or preserve all surplus food from gardens for winter use. In a morning's work with ordinary home utensils, you can

(Continued on Page 19)

CASH paid for household linens. Send \$1 to \$7 each. Easy work. Even you have earned good money with our help and our pictures, descriptions, price list, and simple instructions on making things. Send 3 stamps at once for prospectus. SINCLAIR, Box 244, D 45, Los Angeles, Cal.

Old Bags Cash paid for all kinds of bags or burlap, any quantity. Send for price list. Hudson Bag Mfg. Co., Bayonne, N. J.

Home Canners Attention

Can your fruits and vegetables in sanitary cans, seal with the H & A Double Seamer, Hand or Belt power. Write for illustration and prices.

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47-G First Street, Portland, Ore.
Builders of the H & A Steam Pressure Canning Outfits.

PARKER'S HAIR BALM
A toilet preparation of merit. Helps to eradicate dandruff. For Restoring Color and Beauty to Gray and Faded Hair. 25c and \$1.00 at druggists.

LE PAGE'S CHINA CEMENT
STANDS HOT AND COLD WATER 10¢

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Put a Kalamazoo in your home on our 30 days' trial plan. Let us show you what Kalamazoo stove quality is and how to save money. Your money promptly returned if not satisfied. 300,000 owners now recommend Kalamazoo. Let us refer you to some near you.

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Here's a Danger Spot—Watch It

The garbage can is a menace to the health of your family. The foul odors it emits, brings around flies—nocturnal carriers of disease germs. If you sprinkle your garbage can every day with 20 Mule Team Borax you'll find that it will neutralize foul odors and keep the flies away. Of course this is but one of the many uses for

20 MULE TEAM BORAX

Its greatest use is in the laundry and kitchen. This Borax is the greatest known water softener. It saves soap—saves scrubbing, makes the clothes white and scrupulously clean. This Borax sprinkled in the dish water will relieve you of a lot of disagreeable work.

20 Mule Team Borax Soap Chips

Soap in chip form. Saves you soap cutting. Blended in the right proportions, one part Borax to three parts of pure soap. Not a substitute for Borax but a time, labor and money saver that will pay you to use every wash day. See the picture of the famous 20 Mules on each of the above packages.

Sold by all dealers



"Happy Farm Days"

Editor Green's Fruit Grower:

My Dear Sir: I was much impressed with your letter—"Happy Days," in the Fruit Grower for June, and I feel as though I would like to write you in regard to same. I was raised on the farm about 15 miles from Delaware Bay, in what was known as the great peach belt of Delaware. In looking back to boyhood's days, I can recall many happy events; Golden Days of life on the farm, when the mind was free from the burdens and cares incidental to one in mature life. Happy times were those when we rushed down stairs Christmas morning to see what "Old Chris" had put in our stockings. The Fourth of July; the setting of rabbit traps in the late fall; swimming and fishing in the mill pond, etc.

Many Happy Days I have spent when father and mother and all of us would go to the Bay in August for a day's pleasure on the beach; mother would be busy the day before in preparing good things to eat and father would pull some good old Mountain Sweet Watermelons and Cantaloupes to carry along. We started very early so as to avoid the heat of the day, and usually, we were in sight of the beach when the sun rose. We spent the entire day on the beach returning home in the cool of the evening. Those days have long ago fled, and I to manhood have grown; yet other things in the order of life have come that make happy days to all phases of life. I have had many happy days since a boy, and I have had many sad days too. When these came I was prone to look back and think of the happy days of the past, failing to consider and reflect upon the promise of the Lord that happy days would return again to them that trust in God. As I took the last look of all that was mortal of those that were lovely and dear to me, it seemed that every ray of happiness had fled to distant realms; yet happy days came again, with the assurance and consolation of meeting again to part no more.

It seems that sad days make happy days more happy when they do come again.

We read in the Bible of a man whose days were happy, then came a time of great loss, calamity and sadness. Then life appeared one miserable existence to him. But days of prosperity and happiness returned with greater power to bless his later days.

Happy Days to all ages of life, greatly depend upon the circumstances, or natural conditions in which one is placed. Affliction, sickness and the cares and burdens common to this life, at times are things to consider. The lack of proper thought, wisdom and judgment, or failing to heed to good advice given by older persons of wider experience, in many instances, is largely the cause of much unhappiness.

Said a woman: The happiest days of my life was when I was single. My parents and others spoke strongly against my marrying a drinking man; I loved him and paid no attention to what others said; and now let me tell you that when I married a drunkard I reached the acme of misery, and now though only 35, yet my hair is white as one of 70. Insane from effects of intoxicating drink, my husband returned home one night and slew both of my darling little girls asleep, and then killed himself.

How lovely is the memory of those happy days when the little ones came along; their cute and lovely ways; those sweet smiles and baby laughter, the outstretched arms pleading to be taken up. How consoling the happy thought of the people of God, that the life to come shall be one eternally endless Happy Day.—John H. Griffith, Md.

The salt mines of the Maramaros-Sziget district have been worked for centuries and many Americans who have toured this part of Hungary have visited the deep galleries whose rock-crystal walls glitter as if studded with countless iridescent jewels as they reflect the rays of the electric lights. One of the most interesting mines is that of Ronaszek, which contains a great subterranean salt lake having a depth of nearly 300 feet.

The Enormous Weight of an Inch of Rain

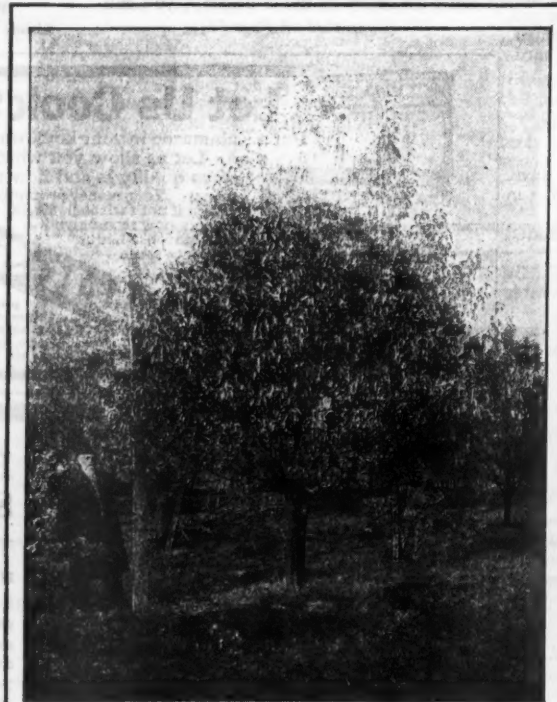
Do you know what an "inch of rain" means to farmers? When the weather bureau reports that an inch of rain has fallen, it means that the amount of water that descended from the sky in that particular shower would have covered the surrounding territory to a depth of one inch, if none of it had run off or soaked into the ground.

It means that on one acre of ground water to fill more than 600 barrels of 45 gallons each has fallen. That quantity of water weighs more than 110 tons. If the rainstorm covered 1000 acres, which would be a very small shower indeed, 113,000 tons of water would fall from the clouds.

Rainstorms frequently cover whole counties, and often two or three or five inches of water falls in one storm. In that case the weight of water that falls to the earth is simply enormous. A single widespread and heavy storm might result, it has been estimated, in 100,000,000,000 tons of rain.

Feed the Legumes

Every progressive farmer now knows that leguminous crops are an effective way of maintaining soil fertility and for this reason the acreage in them is constantly increasing. If the whole crop is plowed under, however, it is evident that there can be no revenue



Sec'y John Hall in David Bell's Orchard

from the land that year. It is much more profitable, therefore, to pasture the land and then to plow under what remains of the crop together with the manure that is left on the ground according to specialists of the U. S. Department of Agriculture.

Barnyard manure contains a large proportion of the fertilizing value of the substances fed the animals. In the effect upon fertility, therefore, it makes comparatively little difference whether the crop or the manure it produces is returned to the soil. What difference does exist is much more than offset by the profit that should accompany the proper management of live stock.

All legumes make good pasturage and their use for this purpose will minimize the need for more expensive feedstuffs. The extent to which this is done is one of the great factors that make for success in the live stock industry. The efficient use of all farm roughage, such as straw and stover, and of leguminous crops will provide the farmer with much valuable feed which may be said to cost him little or nothing, for giving it to animals does not materially lessen its fertilizing value and under ordinary circumstances no direct cash returns are to be expected from it.

The Test.—Willie—"Paw, when has a man horse sense?"

Paw—"When he can say 'Nay,' my son."

—Cincinnati Enquirer.

Enriching the Soil

My attitude toward commercial fertilizers has ever been favorable to their use. I have continued to use such fertilizers more and more each year.

The phase of the commercial fertilizer problem of greatest interest to me is to learn what kind of fertilizer my soil needs most in order to promote the yield of the various crops and particularly the apple crop and other fruit crops.

The chief objection to the larger use of commercial fertilizers among farmers and fruit growers is the cost of the product, though there are those who hold erroneously that the continued use of commercial fertilizers depletes the soil rather than adds to its fertility. The policy of Green's Fruit Grower has been to encourage the use of commercial fertilizers as an adjunct to the supply of homemade stable manure. We deplore the great loss from erroneous methods of handling stable manure, such as heating when horse manure is left in piles instead of being drawn out almost daily and spread upon the field as fast as made, and the leaching which takes place in most open barnyards where the best part of the manure is washed away into the streams.

My theory is that just so much cultivation must be given our fields, just so much plowing and just so much harrowing, just so much removal of stones, just so much cultivation, hoeing and harvesting. Now if we can add to the yield of these crops \$5.00, \$10.00, \$15.00 or \$20.00 per acre by a moderate investment in commercial fertilizers, here is an opportunity for clear profit. We have much yet to learn about commercial fertilizers. It is not enough to say that we have discovered that such fertilizers are profitable. We should know when, why and how they are profitable and under what conditions they may not be profitable. We know that they do not add to the soil humus, a substance which is much needed on the farms of the eastern and middle states.

My superintendent has consulted me in regard to the purchase of a carload of commercial fertilizer. I approved of his suggestion to buy this amount for the coming season.

Thistles

When I was a barefooted child on the homestead farm I was troubled walking through thistles in the grain fields. Often one of the workmen would carry me on his back through the thistle infested section. I do not see the bull thistle so often as I did in my childhood. When we speak of thistles we think of the Canada thistle, which is the most pestiferous. When I moved to Green's Fruit Farm there were many large patches of Canada thistle.

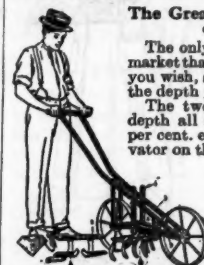
At present you will have difficulty in discovering them. If you should ask our method of extermination my answer would be thorough and continuous cultivation of the soil. No matter how firmly entrenched was the Canada thistle patch when we planted it to young nursery trees, which require the most careful, thorough and frequent cultivation, this was the last of the Canada thistles. They were exterminated and forgotten. These nursery trees grew thriftily and were soon so tall we could safely run the plow between the rows followed within a few days by the one horse cultivator. This thorough and frequent cultivation gave the thistles no chance to breathe, no chance to produce foliage, therefore the roots perished.

You cannot exterminate the thistle by planting strawberries upon the ground infested. Strawberries should be planted only on thoroughly subdued land. I have heard about frequent mowing of the Canada thistle as a means of destruction, and of applying salt, but have never succeeded with any plan except that which I have named above. In order to kill this thistle it must have no opportunity to appear above the soil and breathe.

I take three farm journals, but get more real pleasure and knowledge out of Green's Fruit Grower than from the three mentioned. I do not want to miss a single issue.—W. G. Cruse, Oregon.

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Poultry Dept. Rochester, N. Y.

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A watch's mainspring is two feet long

Africa is three times larger than Europe.

After roasting, 100 pounds of beef only weighs 67 pounds.

The muscles of the human jaw exert a force of 534 pounds.

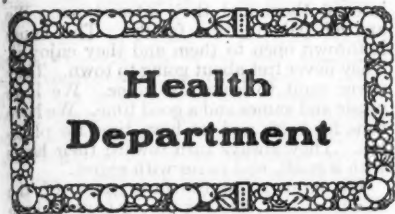
The French Legion of Honor is the biggest order of merit.

The chance of two finger-prints being alike is said to be one in 54,000,000,000.

There were 4,390,940 stems of bananas, valued at \$2,450,754, invoiced at the American consulate at Port Limon, Costa Rica, for the United States during 1915, compared with 4,802,233 stems, valued at \$2,680,311, for 1914.

The Chickens. This is the time of year when our poultry is given more freedom. The result of unrestricted rambling over the garden and nearby fields is more prolific production of eggs and a better physical condition generally. We know that exercise is good for men, but some of us do not realize that our poultry, our cattle and our horses need exercise just as much as their owners. This is the season when those interesting chickens begin to make their appearance and invite our attention to their cunning ways. Poultry keeping is one of the notable attractions of farm life. When the city man contemplates moving to the farm he has in view a poultry yard and an abundance of fresh laid eggs.

The State College of Forestry at Syracuse, carrying on studies of wood utilization in New York, finds that of the total cut of lumber in this country 11 per cent or about 11 billion feet, is wasted yearly in sawdust. It is estimated that in New York state alone an equivalent of nearly 135 million board feet of good lumber goes into sawdust every year. This amount of lumber is enough to build at least two thousand good substantial frame houses.



Health Department

"Your health is worth more than it can possibly cost you."
—Samuel Johnson.

The Magic of Garlic

One of the most important medical discoveries of the war is the magical properties of garlic as an antiseptic. It has proved to be a tremendous boon to the wounded soldiers. The discovery was first announced in "The Lancet" by Dr. A. D. Serrell Cooke and Dr. V. Gabriel, two London medical men who introduced the remedy into Paddington infirmary with remarkable results. Of the hundred cases treated there not a single failure was recorded. Most of these cases were of people in very weak health and with terribly infected wounds, and of infirm, old people who appeared to have no chance of recovery. Equally gratifying results have been obtained at the front. When applied to a wound the garlic stops the infection and heals the wound in an astonishingly quick time, where other antiseptics injure the tissues if used at the strength required to arrest the infection. The juice gets the infection under control within forty-eight hours, even in the worst cases.

Constipation

Negligence and carelessness have much to do with constipation. Almost everybody should rise 15 minutes earlier than they do in order to attend to all of the body's needs. If there is constipation and no inclination it is all the more reason to set up this anti-constipation habit. An apple, orange and figs before bedtime and two cupsful of water on waking up in the morning will help to bring results if time is taken for it. Lots of water before meals, fruits and bulky vegetables at and between meals, gymnastics, outdoor games, athletics and exercise play a major role. Oils, fruit juices and a life in the open are essential.

Good Medicines—The best things of earth are often cheapest. Doctors and their medicines are expensive. My experience is that there are no medicines equal to a plentiful use of pure water, fresh air and to the taking of exercise, all of which can be obtained without cost, absolutely free, by most people. How strange that it should have taken the human race so many thousand years to discover these medicines.

The over use of sugar is one of the causes of diabetes.

To get rid of a soft corn, apply a little raw cotton soaked in castor oil. Bind it upon the corn with a strip of soft old linen.

An Epsom salt bath is said to be good for one afflicted with nervous or kidney troubles.

Hot water is the best thing that can be used to heal a sprain or bruise. The injured part should be placed in water as hot as could be borne for 15 or 20 minutes.

For tired eyes, inflamed eyelids and styes, hot water is so good as bathing with hot water.

Hot Water Bags

With proper care rubber water bags will keep a long time, but if not attended to they will not last long. Never leave them in the bag. Hang the bag so that the mouth hangs low, allowing all the water to run out. When dry inflate the bag with fresh air and put in the stopper. Many rubber bags are destroyed by attempting to pull them apart when they are stuck together; such bags should be immersed in water containing a few drops of kerosene; after remaining there a few

minutes, press the bag apart with a thin dull edged piece of wood. Never fold a rubber bag. If the rubber bag is covered with a flannel bag it would last longer.

Soda as a mouth wash leaves nothing to be desired. It whitens the teeth and brightens gold fillings. It sweetens the breath, and corrects the acid condition of the mouth that is responsible for the decaying of the teeth.

I am told that there are individuals who cannot eat strawberries or rhubarb since they seem to cause or aggravate rheumatism or the swelling of joints. Eating celery is recommended to rheumatic people. I am surprised to get the above report, for I can eat strawberries or rhubarb or almost anything without disturbance. But it is a fact that some people for unknown reasons are susceptible to the effects of eating various kinds of food. We should learn what agrees with us and not over indulge in any one particular class of food for a long time.

A friend says that hives, and possibly other skin diseases, are aggravated or caused by eating strawberries. Instances of bad effects of eating strawberries and rhubarb or pieplant are rare. Being a strawberry grower, I have eaten strawberries to excess at all hours of the day without any apparent injurious or disagreeable effects. I have always felt better after the strawberry season opened and after I had eaten them freely.—C. A. Green.

Honey for Rheumatism—Some physicians are saying that pure honey will cure rheumatism. For some time we have heard of bee stings being a cure for rheumatism, but nothing definite ever resulted from any experiment. The honey prescription calls for two tablespoonfuls of either comb or strained honey five times daily, at 8 a. m., 10 a. m., 2 and 4 p. m., and at bed time, and that no fluid of any kind be taken for at least an hour after taking the honey.

Two Experiments

I am asked for information about mushroom growing, also about ginseng culture. Here are two interesting subjects, but I cannot advise my readers to take up the culture of mushrooms or ginseng unless they have had experience or can get the services of an experienced person. Mushrooms grow readily in old meadows, therefore, it is natural to suppose that if one has a large cellar or a cave or even a conservatory he can succeed in growing mushrooms profitably. It is true that there is a constant demand for mushrooms, but many who have attempted to grow them have failed for one reason or another. It is not generally known that the mushroom will not thrive in a room not well ventilated, as are most rooms in cellars or caves. This is something that would scarcely be surmised by the novice. Then there are other conditions of warmth and the condition of the bed which might lead to failure.

There was a great craze a few years ago over the growing of ginseng, the roots of which are supposed to be in great demand in China. The assumption made from mushrooms will apply to ginseng. It was supposed that ginseng roots grew so readily in the woodlands it would not be difficult to make them grow in our gardens or in other available shady places, but it was later learned that the ginseng plant was exceedingly fickle and sensitive to its surroundings. If not given just the right treatment it sickened and died. Many thousand dollars have been lost by attempts to make money out of growing ginseng. Then later the price was reduced and it was found that garden grown ginseng was not considered so valuable in China as that grown in the forest.

A great many people have wondered why horse-chestnut, horse-radish, etc., are so-called. A Scotch work says, that the original word was "harsh"—harsh-chestnut, harsh-radish and what the French and Swedes translated it "horse"—hence the common error.

A half dead tree does not yield good apples.

Haste to the Work
Written for Green's Fruit Grower By
B. F. M. Sours

Haste to the work!
No time to shirk!
Upon the beaten way,
Though bird songs ring today,
Haste to the work!

Haste to the work
Ere shadows lurk!
The busy harvest bends;
The sweat the toil attends:
Haste to the work!

Haste to the work;
No time to shirk!
The day is on the wane,
The sunset glows again—
Haste to the work!

IRON AGE
GARDEN TOOLS
Answer the gardener's big question:
How can I grow plenty of fresh vegetables with my limited time?
How can I avoid backache and drudgery? Use
IRON AGE Wheel Hoes and Drills
Do the work ten times faster than the old-fashioned tools. A woman, boy or girl can push one. All combinations—easily adjusted. Light, strong and durable. Prices, \$2.50 to \$10.00. Will help you to cut the high cost of living.
Write us for free booklet today.
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overmiles on
BRAENDER TIRES
They have a remarkably tough tread, unusually strong side walls—and have won a national reputation for tire endurance.
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get full particulars from our agent in your locality—or write us direct.
Braender Rubber & Tire Company
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Fruit Growers' Supplies

Sprayers This is one of the many different styles that we handle and is fully guaranteed.
Price, No. 18, as illustrated \$11.00

Spray Solutions We have a solution for the destruction of all kinds of orchard pests—Bordo-Lead Arsenate mixture.
Price \$1.75 per gal., \$6.75 per 5 gals.

Garden Tools We are handling the complete line of Planet, Jr., Garden and Farm Tools.
Price, No. 4, complete, can be used as a seeder or cultivator \$12.75

Standard Berry Baskets

A good clean basket means a high price for the fruit. We have a good clean basket for sale at as reasonable prices as can be expected when you consider the quality of the goods.

PRICE of quart and pint baskets, \$2.50 per 500. \$4.50 per 1000. \$4.25 per 1000 in lots of 3000, \$4.00 per 1000 in lots of 10,000.

PRICE of lapped-corner huckleberry quarts, \$3.50 per 500. \$6.00 per 1000. Order early before prices advance.

Send for New 8-Page Circular of fruit growers supplies with instructions about spraying

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Fruit Growers! Gardeners!
A boy with this machine can do more and
better work than 10 Men with Hoes!
**The BARKER Weeder, Mulcher
and Cultivator**
3 tools in 1, cuts the weeds
underground and forms the
hardest crust into a moisture-
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sive cultivation. Works
right up to the plants without
injury. Cuts runners. "Best
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and particulars of most marvelous
offer ever made on a bicycle. You
will be astonished at our low
prices and remarkable terms.
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—Boys, make money taking orders
for bicycles, tires and sundries
from our big catalog. Do business direct
with the leading bicycle house in America. Do
not buy until you know what we can do.
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Write for details of interest to every inventor.
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the dead of night with vet-
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Full directions in each pack-
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At all dealers, 25c. 50c. and
\$1.00 a bottle. The \$1.00
bottle contains six times the
25c. size.
Sloan's Liniment
PENETRATES WITHOUT RUBBING

Small Fruits

Blackberries Benefitted by Mulching
By L. T. Powers, Sterling, Ill.

A few years ago we had a patch of blackberry bushes which produced an abundant crop of fine large berries almost every season. Even when the rainfall was light, the yield, altho' decreased, was not a failure, as it frequently is under those conditions. Our success with that patch we now feel certain was due to the heavy mulch which we applied annually.

Every spring when raking up our large front lawn, we carried the leaves, which were nearly all from hard maples, into this blackberry patch and spread them evenly and thickly among the canes, to a depth of several inches. The canes were not in rows, and the ground was completely covered with the leaves. Then we hauled in rye straw and spread it in a thinner layer on top of the leaves, to keep them from blowing. The complete mulch was often nearly a foot in depth before it was settled by the spring rains. Very few weeds ever came up through it, and those which grew were easily pulled, since the soil underneath the mulch was loose and moist. This covering retained the moisture through the hot dry period just before the berries ripened, when they are so often injured, and they were almost always sweet and juicy. In very dry weather we occasionally gave the patch a thorough sprinkling with the garden hose, and the mulch kept the moisture from evaporating. There were several large cherry trees scattered among the blackberries, so that they were partially shaded, and this also was a benefit to the berries.

This plantation in time became affected with the orange rust so badly that it had to be abandoned and destroyed. Whether the richness of the soil and the moisture caused by continued mulching made conditions more favorable for the development of this disease, I cannot say, but we thought that this was probably the cause.

The new plantation was set out in rows seven feet apart, with the hills three feet apart in the row. It was mulched with manure for a year or two, and since that time has been cultivated, but not mulched. For the first two or three seasons the berries were large and ripened evenly, but since the patch has been only cultivated, and in some cases simply hoed to keep down weeds, with no mulching, the yield has grown less and the quality of the fruit poorer. For the last three years the hot weather has injured the berries before ripening so that the majority of them dried up on the canes or were small and seedy, and hardly worth picking.

The contrast between this plantation and the one on which the mulch had been maintained for years is so great that we cannot explain it in any other way than by giving the credit to the system of mulching, which not only increased the fertility and organic matter of the soil, but aided in storing the moisture for use at the critical time when the berries were forming. From my experience I would use a mulch for a small blackberry patch, rather than depend on cultivation, which is too often neglected just at the time it is most needed. The mulch requires a little more work at the beginning of each season, but requires no more attention during the year, and besides it makes use of the leaves, which would otherwise be burned or wasted. The increase in yield and quality of fruit I am sure will easily pay for the extra labor.

Can I Make a Living Growing Berries

I am often asked this question by men who have 10, 20 or more acres of land. My reply usually is: Yes, you can make a living growing almost anything if the conditions are favorable and if you are the right kind of man.

I hear of a fruit grower who marketed a million dollars' worth of berries the past year. He distributed 550 carloads of fresh fruit. I have had considerable experience in handling strawberries, raspberries, blackberries and other small fruits, therefore I have full appreciation of this large fruit

grower's ability. I would almost as soon have the cares of the president of the United States upon my shoulders as to have the care of 550 carloads of berries to market in such a way that no particular locality shall be over-supplied, and yet that all the available markets should be amply supplied with this perishable fruit without loss.

It used to be difficult to get a pair of shoes repaired within reasonable time in the city of Rochester, N. Y. Then came along a genius who advertised that he would mend your shoes while you were waiting. His repair shop was equipped with all available machinery possible and with a large force of men so that he was ready the moment you entered his shop to repair your shoes. Sometimes it took 5 minutes, other times 10 minutes, at another time possibly 15 minutes to do the work while you were waiting reading the morning paper. If the job was to take an hour he would deliver the shoes to your house, payments all to be made in cash on the spot. This man is making a fortune out of mending shoes. There is scarcely any limit to the opportunity for starting in business, provided one has the necessary intelligence or business ability and quality known as executive ability.

Small fruit growing is profitable to the poor man who has a small garden in or near a village. By making this land remarkably rich and giving careful cultivation he can produce large crops of strawberries, raspberries, blackberries, and dispose of them near home without even owning a horse and wagon. After he has been growing these small fruits for a few years people will learn about him and his fruits and will call upon him, pay him the cash and take away his product. The man who grows an acre of small fruits will have to have horses and wagons, and more ability than the man who grows simply a small patch in his garden. The man who can succeed in marketing 550 carloads of small fruits is far from being an ordinary man. He is a man who can make a success of almost anything he undertakes. There are probably not a dozen such men as this in the entire country.

With labor scarce, anything that can be done by machinery should not be done by hand. Even if machinery must be purchased on time, or with borrowed money, it will more than pay interest on itself this year out of what you save in wages.

What Makes Success

"A successful farming community is one in which the people develop a community spirit and interest, an interest in the schools, the churches, Sunday schools, good roads, clean sports. Those who have attempted to get something started in farming communities know why there is so much complaint against the alleged burdens and unattractiveness of farm life," says Kansas Star.

"The only reason farm life is not attractive in so many homes is because it is made unattractive by neglect. Most people simply do not know how and make no effort to find out. That is the danger of ignorance. There is no earnest striving after the things which will drive away the dreariness and ugliness of the unattractive home.

"Flowers, music, books, magazines, cultivating a social life with the neighbors, an interest in the church and school work, planning and building better roads and a better community life, will carry into the homes a lot of genuine pleasure.

"I have too much work to do for all that foolishness," some women will say. Well, I have kept my home and have raised five children, doing all the work myself and making all of their clothes, and I want to say that I have genuinely enjoyed life on the farm. I will compare notes with any woman on the amount of work that is necessary, and still I have found time to do many things that bring pleasure and make farm life more attractive.

"I enjoy playing with the children. I

interest them and they interest me. We are all pals in this family. The house is thrown open to them and they enjoy it. They never fret about going to town. They never want to leave the home. We have music and games and a good time. We have time for work and we have time for pleasure. They always turn toward their home with a smile, and never with regret."

We produce on the farm most of the things we eat. We put up our fruit and can our vegetables for winter use.

Prevent Flies Breeding in Manure

That flies may be prevented from breeding in barnyard manure by adding to the substance the common fertilizer ingredients, calcium cyanamid, acid phosphate, and kainit, has been demonstrated by recent experiments made by the Bureau of Entomology and Chemistry of the U. S. Department of Agriculture. The valuable feature of the discovery is that by the new treatment the fertilizing value of the manure is increased at the same time that its menace to health is lessened. Under treatments for preventing flies breeding in manure heretofore in use, the fertilizing value of the substance has been decreased or not affected.

As a result of the experiments, the Department's specialists advocate the use of mixtures of 1 pound of cyanamid and 2 to 4 pounds of acid phosphate per 4 square feet of surface exposed, when the manure is in boxes or pits. When the manure is in open piles the rate of application should be 4 pounds of cyanamid and 4 or more pounds of acid phosphate per 8 bushels of manure. To be sure of retaining all the fertilizing elements, more than 4 pounds of acid phosphate are recommended. When kainit is used it may replace a portion of phosphate.

When manure from pits treated as suggested above is applied as fertilizer, the rate should be 9 tons per acre to provide the amount of cyanamid calculated to be most effective. Manure treated in open piles should not be applied in excess of 2½ tons per acre, since it contains a much higher percentage of the commercial fertilizer than the pit-treated product.

Earlier experiments made by the Department's specialists proved that both borax and hellebore are effective in preventing flies from breeding in manure. The use of borax was found to constitute the cheapest effective treatment, costing one-half cent per bushel of treated manure. The hellebore treatment was found to cost about 1 cent per bushel of manure, and neither lessens nor increases the fertilizing value. The treatment with fertilizer ingredients just evolved costs from one-half cent per bushel of manure when treatment is in pits to 1.8 cents per bushel when the treatment is in open piles. This cost is based on the normal selling prices of the fertilizer ingredients, and is materially lessened in effect by the increased fertilizing efficiency of the treated manure. Not only is the value of the manure increased by the fertilizer ingredients added but also the presence prevents the waste of certain valuable elements usually lost from untreated manure.

Fruit Growers Should Keep Bees

By J. A. Pearce

There has somehow grown-up a belief that bees are very difficult to keep and learn how to handle. Now neither of these are true, for I have studied bees, poultry and fruits for forty years and I have found as we now keep bees that they are very easy to learn about and manage for either poultry or fruits. For instance, you keep a flock of poultry, you have to visit them over seven hundred times a year if you only visit them twice a day, and you won't do with less, and you have to furnish them with a large amount of food during the year, an amount that would frighten you if you would see it all in one heap at the end of the year.

On the other hand, our bees as we keep them do not have to be visited very few times, many of them only two or three times a year. On a wager I can keep them with only two visits a year. I gather and store all of their own food, and also are intelligent enough to feed themselves, so you do not have to go and feed them and care for them like you do with poultry and other stock on the farm. See there is no comparison between the two and there is only a few things to

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about bees while there are so many about poultry.

And now in regard to learning about fruits, who will dare to say they know all about them or even the greater part? Then, if you can learn so you can manage your fruits, grains, hay and poultry, you can surely learn about our modern bee keeping and should do it, for bee keeping is one of the biggest assets on the farm, paying more than five times as much as general farming for the money invested. Then why pass up your biggest asset and devote your energies to other things not paying nearly so well? There must be a reason for it.

You say the bees will sting. Well, there are many things that sting worse than bees do. There is the sting of remorse and the sting of neglected opportunities and many more that might be mentioned. But you can easily protect yourself from the bee stings. A thin cotton jacket, a pair of overalls drawn up over the jacket, a veil, gauntlet gloves, and a bee smoker will effectually protect you from the bees. The whole outfit that any supply dealer can send you will not cost five dollars. Electricity or gasoline will kill you in an instant but you would not have them less powerful. You can easily guard yourself against the dangers of them, so do this with the bees and go ahead and use this powerful agent to pollinate your fruits and in addition have all you want of this purest of all sweets. It is all about you and the bees will bring it in and put it right up stairs for you, if you will get them and let them.

There is an enormous supply of this honey that is sent down to us each morning like "The Manna in the Wilderness," as it were. And you are to blame if you do not gather your share of it for it takes no fertility from your soil and you do not have to prepare your land for it and there is no valid reason why you should not have a full supply of it for your family and more.

Eastern Fruit Growers Should Advertise

By Otto W. Volger

As the owner of a fruit farm in Niagara County, articles on advertising Eastern fruit appearing from time to time appeal to me, as no doubt they do to many others who view this subject from a commercial standpoint.

It is a business axiom now that "it pays to advertise."

Many of the best known fruits owe their ascendancy in the markets to the realization, on the part of the growers, that advertising will market their products, and that merit alone will not accomplish such purpose.

In no branch of industry is this fact better illustrated than in the growing, packing and marketing Western Apples. The Fruit exchanges on the Pacific Coast, backed by the growers, have seized every opportunity to display their fruits at expositions and other displays.

The strength and number of these Exchanges have made it easy to give such exhibitions. Papers and magazines have been utilized to extol the beauty and lusciousness of the fruits from the Western orchards.

Careful Packing Necessary

Growers have been instructed in the best methods of sorting and packing the fruits marketed by the exchanges. In foresight, advertising and adequate preparedness the Western growers have distanced their eastern competitors.

But the latter can overcome this apparent handicap by rivalling the foresight of their eastern brothers, by teaching the public, through the same means employed by them, that their apples and peaches are unexcelled in flavor, zest and possibly keeping qualities.

When this is done the public will know while the Western fruit is good to look at, it is after all the prime essential. When the general public learn this from proper advertising and demonstration, we shall no longer behold the spectacle of peaches from Alabama and Texas, picked green and sent to a section where peaches are picked ripe and marketed the next day in a luscious condition, or beautiful colored apples from Washington, Oregon, taking the place of the snappy, crisp apples of New York.

In an illustration of the subject under consideration, I recall a conversation with a friend, who for years was one of the proprietors of the Hotel Iroquois at Buffalo and now of the Hotel Pontchartrain Detroit, one of the best hotel men in the Country. We were discussing apples, he said he believed the northwest grew "handsome picture apples," but for quality and flavor he preferred New York apples. What was undoubtedly true then is true today.

About a year ago I wrote to the President of the Niagara County Agricultural Society and suggested the advisability of the growers of this section getting together, loosening their weasel strings and doing some advertising in behalf of our fruits and start something like the blowing of New York State's horn. Nothing has been done so far as I know, except a modest half page article in the Buffalo Motorist, published by the Auto Club of Buffalo with a membership of thirty-five hundred, entitled "When you eat Pheasant do you eat the plumage." As the author of that article, written in the interest of Western New York growers, I assumed the expense and was greatly gratified with the impression it made on people who had not given thought to the subject.

Size of Package Important

I believe the Eastern grower has likewise failed to awaken to the importance of suitable saleable sized containers for apples.

The day when the winter supply of this palatable fruit could be brought in and dumped in the capacious cellar room of the consumer has passed. The consumer now dwells most numerous in flats and apartments and purchases largely by small measure.

If contained in boxes or small barrels, sometimes spoken of as "baby barrels" or "barrelettes" convenient for handling and holding not too large a quantity for keeping in these small super-heated apartments, lacking storage space, sales would be promoted and the Eastern fruit trade benefited.

I talked with some barrel manufacturers about this last year and their answer was "let the other fellow try it first," the reason assigned being the requirement of new machinery.

If the reform in methods above advocated be adopted, New York even with its self imposed handicap, the most prolific fruit section of the country would soon take its proper rank as the greatest in quality of fruit, as well as the greatest in value of product.

Let Nothing Spoil

(Continued from Page 15)

put up many cans of vegetables and fruit for winter use. If you have no garden, watch the markets. When any fruit or vegetable that can be canned becomes plentiful and cheap, buy a quantity and can it for home use next winter.

Be a Food Conservator

Write today to the U. S. Department of Agriculture or to your State agricultural college for full information as to how to keep food in the household and how to can and preserve all surplus fruits and vegetables

DON'T TRACK THE WHOLE BACK YARD INTO THE HOUSE

Build a Walk and Save "Mother" Some of the Housecleaning Drudgery

How often we find ourselves, in our country homes especially, causing our housekeeper an endless amount of work. We shall not call it work but drudgery, that being a name given to chasing a mop over a large kitchen floor, such as is most often found in a country home. How many of us stop to think of how much we can help the busy housewife in her work if we would but do our part in keeping mud out of doors where it belongs. I shall venture to say that we busy men, and we are busy, reach the house by the back door ten times to once by the front door.

Why not have our front walk at the back or one at the back as well as at the front? Why not fix up those old dilapidated steps and put a foot scraper where it may be handy? Then let us build a walk of concrete, boards, brick or anything we may have suitable for such a purpose. Suppose the arrangement of our back yard is such that we can build a walk only to the back gate or to the well, let's do it.

For Bigger
Better Crops

SPRAY

With Sherwin-Williams Dry Powdered
INSECTICIDES & FUNGICIDES

Sherwin-Williams makes the only real Dry Lime-Sulfur on the market. Like other Sherwin-Williams dry powdered insecticides and fungicides, it contains practically no water. Cheap to ship—easy to handle—can't freeze—gives maximum killing power at minimum expense.

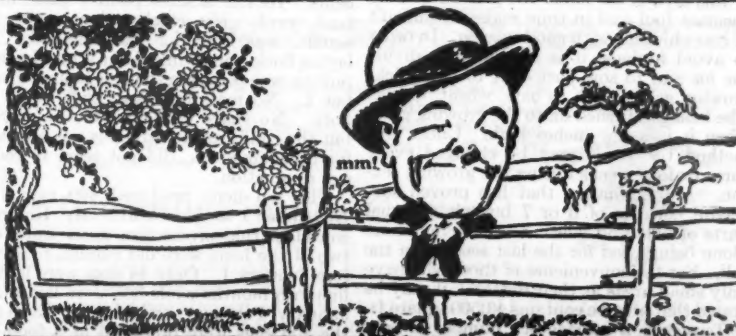
Lime-Sulfur
Arsenate of Lead
Tuber-tonic
Fungi-Bordo

All in
Dry Powdered
Form

Send for our Spraying Literature

THE SHERWIN-WILLIAMS Co.

Insecticide and Fungicide Makers
675 Canal Road, Cleveland, O.



HOW do you know that spring is in the air? "Your Nose Knows"

By the fragrance! It's awakening Nature saying "good morning" to you across the fields—the fragrance of swelling buds, of new-plowed earth, of fresh green pastures. How wonderful it is! How sure a promise of returning life—"Your Nose Knows." Fragrance never misleads. It's the pure fragrance of a good tobacco, likewise, that promises sure pleasure in smoking and guarantees satisfaction.

There's such a promise in the pure fragrance of

Tuxedo

The Perfect Tobacco for Pipe and Cigarette

For the tender, ripe leaves of which Tuxedo is blended have stored the Blue Grass sunshine of old Kentucky and bring to you a pure fragrance that has no equal. "Your Nose Knows."



Try this Test: Rub a little Tuxedo briskly in the palm of your hand to bring out its full aroma. Then smell it deep—its delicious, pure fragrance will convince you. Try this test with any other tobacco and we will let Tuxedo stand or fall on your judgment—
"Your Nose Knows"



Small Bags
10 and 25
Half Pounds
Pound Cans
Humidor

Poultry Dept.

Care of the Small Flock

For the family who wishes to keep poultry for home consumption rather than for the market, the so-called general-purpose breeds are better suited than what are known as the egg-laying breeds. Plymouth Rocks, Wyandottes, Rhode Island Reds and Orpingtons are all good varieties for the average person who does not intend to go into the poultry business on a considerable scale. These breeds are good layers and they also make good table poultry. Furthermore, they will hatch their own eggs and brood their own chickens, whereas, the Leghorns and other breeds of the egg-laying class do not set, and the use of incubators and brooders is necessary in order to perpetuate these flocks.

The prime essentials for a small poultry house are fresh air, dryness, sunlight, and space enough to keep the birds comfortable. For the general-purpose breeds about 4 square feet of floor space should be allowed for each bird. The fowls should also have as much outside space as possible to run in. If this area is too small the ground quickly becomes foul and in time makes it difficult to rear chickens with good success. In order to avoid foulness it is advisable to divide the lot and to sow part of it to the quick-growing grains such as oats, wheat, or rye. The hens are turned on to the growing grain when it is a few inches high. Under this method the yards may be changed every three or four weeks during the growing season. A combination that has proved successful consists of 6 or 7 bushels of equal parts of oats and wheat to the acre, wheat alone being used for the last seeding in the fall. For the convenience of those who have only small areas at their disposal, it may be stated that an acre contains 43,560 square ft.

To secure a satisfactory number of eggs the fowls should be fed both a dry mash and a scratch ration. The dry mash may consist of equal parts of corn meal, bran, middlings and beef scrap. This should be kept before the birds in a hopper all the time. A good scratch ration is made up of equal parts of corn, wheat, and oats fed in a litter 4 to 5 inches deep, twice daily. It is desirable that the birds should eat about as much of this as of the mash. This means feeding about 1 quart of mixed grain daily to 12 Plymouth Rock hens or to 14 Leghorns, and an equal weight of mash. Usually waste table products will also be available, and these may be made up into a moist mash in place of the dry mash. In this case the table scrap if it contains much meat, is substituted for the beef scrap. If it does not contain any considerable portion of meat, it should merely be added to the dry mash already described.

PRODUCE INFERTILE EGGS

Save the Spoilage That Comes From Letting the Male Bird Run With the Flock.

The farmers of the United States lose each year large sums because of improper methods of producing and handling eggs. One-third at least of this loss is easily preventable. It is due to the partial hatching of fertile eggs.

The eggs laid by a hen may be either fertile or infertile, depending on whether or not the male bird has been allowed to run with the female. Egg production is equally great in flocks from which roosters are excluded.

A fertile egg does not keep as well as an infertile one because the fertilized germ responds more readily to high temperatures than the unfertilized one. It is impossible to hatch an infertile egg or to cause a blood ring to form in one. Such eggs are much more likely to reach the table in good condition and there is much less spoilage in shipments composed entirely of them than in mixed shipments of fertile and infertile eggs.

After the hatching season, therefore, the male birds should be cooked, sold or confined. In approximately 14 days after this all the eggs laid by the hens will be infertile. These can be marketed much more success-

fully under the adverse conditions that frequently prevail in the hot summer months.

Rules for Handling Eggs on the Farm
Heat is the great enemy of eggs, both fertile and infertile. Farmers are urged to follow these simple rules, which cost nothing but time and thought and will add dollars to the poultry yard returns.

1. Keep the nests clean; provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.
5. Sell, kill, or confine all male birds as soon as the hatching season is over.

His Winter Eggs Cost Eighteen Cents a Dozen

Did you pay war prices for eggs last winter? Most folks did, but while neighbors were paying from 35 to 40 cents a dozen for eggs, H. L. Kempster of the Missouri College of Agriculture was obtaining his for 18 cents. He had a small poultry plant in his back yard. His chicken house, six feet square, was built for less than \$4. The laying flock, consisting of ten White Leghorn pullets, was placed in the new house November 1. No male bird was included in the flock. No space was available for a yard, but the confinement, which is not advisable for breeding stock, did not seem to reduce egg production.

The ten hens produced 409 eggs from November 1 to March 31. Mr. Kempster considers this production good since only two of the hens were old enough to lay before January 1. Only 44 eggs were laid the first two months while 365 were laid during January, February, and March. Even then the 409 eggs were produced at a food cost of \$7.00 or less than \$18 a dozen. At market prices which averaged \$.35 a dozen, the eggs were worth \$12.13. In other words, the hens returned a profit of fifty cents a bird above cost of feed. During March the feed cost of a dozen eggs was less than nine cents a dozen. It is thus seen that the longer the hens are kept the lower the feed cost of a dozen eggs will be. By July 1, it will be not more than 13 cents a dozen for the whole period. The test has demonstrated that laying hens can be kept on any back yard no matter how small without becoming an objection to the neighbors, and that eggs can be economically produced.

The birds may be used for meat as soon as they become broody and cease laying. The market value usually increases until June so that the initial investment with interest can be obtained at any time by selling the birds.

Why cannot more consumers become producers under Mr. Kempster's plan? In view of a more serious food shortage the back yard poultry lot would be even more profitable than it was last winter.

Water Glass For Keeping Eggs

During the spring, eggs are at their lowest value and should be stored against the prohibited prices of fall and winter. They can be placed in a cold storage plant until needed or preserved by the use of water glass or silicate of soda. Eggs kept in this solution for eight months are practically as good for every kitchen purpose as fresh eggs, except for the purpose of boiling.

Water glass is not a preservative. The eggs are kept in it by reason of being hermetically sealed in their shells. It is better that the eggs be infertile though this is not necessary, but they should be perfectly fresh and clean.

The receptacle in which the eggs are placed should be of stone, earthen ware, or wood. Water glass may be bought at any drug store.

Each quart of fluid should be diluted with nine quarts of water boiled thirty minutes and allowed to cool before mixing. After mixing pour into the receptacle, which you have prepared. The eggs are now placed in the water glass and should be well covered with the fluid.

Remarkable Facts About Eggs

The latest research proves that 1,200 eggs hold all the chemical elements contained in a man weighing 150 pounds. This does not mean that if you make an enormous omelet of these 1,200 eggs a man would be produced. It does signify, however, that the elements in the eggs would be equal to the elements in a man.

If a person were to eat nothing but eggs he would get just the chemicals needed for supporting life, but the system would not digest an exclusive diet like this. The person trying to live on eggs alone would soon sicken, and if the diet were not changed would die.

If an average man, weighing 150 pounds, were reduced to a fluid he would yield 3,630 cubic feet of illuminating gas and hydrogen, or enough to fill a balloon that would carry 155 pounds.

Sarcastic.—"Are you going to make a garden this year?"

"No," replied Mr. Growcher. "I'm going to dig up a place in the back yard and put some seeds into it, and then turn it over to the chickens for a picnic grounds."

—Washington Star.

FEEDING YOUNG CHICKS

More Harm in Overfeeding Than in Underfeeding—How to Prepare Mash and Grain Mixtures

Young chickens should be fed from three to five times daily, depending upon one's experience in feeding, say the poultry specialists of the United States Department of Agriculture. Undoubtedly chickens will grow faster when fed five times than when fed only three times daily, but it should be borne in mind that more harm can be done to the young chickens by overfeeding than by underfeeding. Young chickens should be fed not more than barely enough to satisfy their appetites and to keep them exercising, except at the evening or last meal, when they should be given all they will eat. Greater care must be exercised not to overfeed young chicks that are confined than those that have free range, as leg weakness is apt to result in those confined.

The young chicks may be fed any time after they are 36 to 48 hours old, whether they are with a hen or in a brooder. The first feed may contain either moistened hard-boiled eggs, Johnnycake, stale bread, pinhead oatmeal, or rolled oats, which feeds or combinations may be used with good results. Mash mixed with milk are of considerable value in giving the chickens a good start in life. The mixtures should be fed in a crumbly mash and not in a sloppy condition. Johnnycake composed of the following ingredients in the proportions named is a very good feed for young chicks: One dozen infertile eggs or 1 pound of sifted beef scrap to 10 pounds of corn meal; add enough milk to make a pasty mash, and 1 tablespoonful of baking soda, and bake until done. Dry bread crumbs may be mixed with hard-boiled eggs, making about one-fourth of the mixture eggs, or rolled oats may be used in place of the bread crumbs. Feed the bread crumbs, rolled oats, or Johnnycake mixture five times daily for the first week, then gradually substitute for one or two feeds of the mixture finely cracked grains of equal parts by weight of cracked wheat, finely cracked corn, and pinhead oatmeal or hulled oats, to which about 5 per cent. of cracked peas or broken rice and 2 per cent. of charcoal or millet or rape seed may be added. A commercial chick feed may be substituted if desired. The above ration can be fed until the chicks are 2 weeks old, when they should be placed on grain and a dry or wet mash mixture.

After the chicks are 10 days old a good growing mash, composed of 2 parts by weight of bran, 2 parts middlings, 1 part cornmeal, 1 part low-grade wheat flour or red-dog middlings, and 10 per cent sifted beef scrap, may be placed in a hopper and left before them all the time. The mash may be fed either wet or dry; if wet, only enough moisture (either milk or water) should be added to make the feed crumbly, but in no sense sloppy. When this growing mash or mixture is not used, a hopper containing bran should be accessible to the chickens at all times.

After the chickens are 2 months old they may be fed four times daily, with good results. After they are 3 months old three feedings a day are enough.

When one has only a few chickens, it is

less trouble to purchase the prepared chick feeds, but where a considerable number are reared it is sometimes cheaper to buy the finely cracked grains and mix them together. Some chick feeds contain a large quantity of grit and may contain grains of poor quality, so that they should be carefully examined and guaranty as to quality secured before purchase.

As soon as the chickens will eat the whole wheat (usually in about 8 weeks), cracked corn, and other grains, the small-sized chick feed can be eliminated. In addition to the above feeds the chickens' growth can be hastened if they are given sour milk, skim milk, or buttermilk to drink. Growing chickens kept on a good range may be given all their feed in a hopper, mixing 2 parts by weight of cracked corn with 1 part of wheat, or equal parts of cracked corn, wheat, and oats in one hopper and the dry mash for chickens in another. The beef scrap may be left out of the dry mash and fed in a separate hopper, so that the chickens can eat all of this feed the desire. If the beef scrap is to be fed separately, it is advisable to wait until the chicks are 10 days old, although some poultrymen put the beef scrap before the young chicks at the start without bad results.

Chickens confined to small yards should always be supplied with green feed, such as lettuce, sprouted oats, alfalfa, or clover, the best place to raise chickens successfully is on a good range where no extra green feed is required. Where the chickens are kept in small bare yards, fine charcoal, grit, and oyster shell should be kept before the chickens all of the time, and cracked ground bone may be fed. The bone is necessary for chickens that have a good range.

Planting Strawberries

Market gardeners should be interested in producing the choicest strawberries for the customers. Probably no one method of strawberry growing produces such excellent results as that of the hill method of planting says Rural Home.

The hill method consists of placing a plant twelve inches from its neighbor in any direction, or if one desires modification of this method, of placing the plants in the rows twelve inches between each, and between rows eighteen to twenty-four inches.

The variety best adapted for this is the Marshall. The Marshall is, at the same time, a standard variety of the high quality, dark red in color, with perfect flowering.

If, with the planting system, the grower will give attention to irrigation, results in yield per acre will be much increased over average conditions in a strawberry bed. With hill growing it is necessary to keep the plant from forming runners. This is not a difficult task with variety mentioned, as it is a shy producer of runners.—A. E. Wilkinson, Ithaca, N. Y.

A man died in New York the other who had run through a fortune of a million dollars, became a tramp and then, when another fortune of three-quarters of a million, spent half of it in riotous living before his death. He complained that "had a rubber leg and everybody pulled at it."

The surface of roads are planed, rolled and made ready for use in a trip over them of a machine that a Pennsylvanian has invented.

Danish navy has imported 2,600 tons of American coal.

From Our Old Kentucky Home

Editor of Green's Fruit Grower, New York: I want to say that I have been a regular reader of Green's Fruit Grower for three years past, and I forward each month to its coming pleasurable anticipation.

I especially love to read the notes of Charles A. Green, your esteemed Editor. Everything that he writes is in such a plain and wholesome tone, that it is really to me in the every day duties of life. I am also interested in fruit growing, small way, and I need hardly say that there is no other fruit journal that has come to my observation, that is as helpful to amateur fruit grower.

It is with much pleasure that I renew for the next three years.—A. McKay, Attorney at Law, Ky.

Increasing the Value of the Farm

Written for Green's Fruit Grower By F. H. Sweet, Va.

The value of a farm depends upon how much crop it will produce year after year. And as we want our farms to produce good crops for us during our life time and also do the same thing for our children after we are gone, we must pursue a method in our farming operation that will gradually increase the available plant food in the soil from year to year.

Now this can be done; it has been done. The rich farming lands in Europe, that have been farmed for a thousand years and are now producing larger crops than ever before, prove this fact beyond a doubt. The next thing to know then is how this can be done. This is the most essential part of farming, and a clear discussion of this subject is always in order. Enduring prosperity for the American farmer can come only through the enrichment of our farming lands. With countless acres of cultivated lands in all sections of the country too poor to produce a profit-paying crop, and with thousands of farmers working lands from which they can hope to secure no more than a meager living, no matter how hard they may work, this becomes a serious consideration.

There are plenty of people now on the land to produce all the food and other crops Americans will consume for many years to come, and any talk of our having reached the limit of crop production is simple nonsense. There is not a single state that is not capable of producing ten times the total crops it now produces, and that too with the farming done as it must continue to be done on the American plan. Crop production must be increased chiefly and first of all by increasing the fertility of the soil. The amount of labor that can profitably be expended on an acre of land is limited by the value of the crop that can be grown, and this in turn is largely dependent upon the soil fertility. It would profit little, as individuals or as a country, to increase the average acre production if this had to be done by restricting each farmer's operation to a very few acres and compelling him to spend two or three times as much labor on an acre as at present. The worn and depleted fields must be made over into new fields which can be tended with no greater outlay of time and labor and that will yet yield twice as much.

This task is an entirely possible and an eminently practicable one. It is indeed a work which must be done. It is serious to waste the forests, the coal and other natural resources, as the wise ones tell us we have been doing, but to waste the soil is exceedingly more serious. The average man, even the average farmer, has no real idea of what a gullied hillside or a sand-buried bottom means to the community in the loss of wealth, of energy, and of opportunity. Every such impoverished field is not only a loss to the present generation, but a tax laid upon the future to be paid only with much hard, profitless labor and long years of waiting. Here and there some far-seeing man has seen and proclaimed the fact that soil waste is the greatest waste of all, but most of the men who till the soil and most of the men who direct affairs of state have as yet failed to realize it.

The time is coming, not only to realize the fact, but also act upon it.

The work of soil reclamation is, if not easy, at least practical, and the knowledge of how to do this work is within the reach of every farmer. Nature is good to us. We can deplete the soil until it will not pay us for working it, but we can readily wear it out only by letting it wash away. Even apparently hopeless "gully fields" may be made again to grow good crops, and there is a possibility of controlling erosion. The "barren" soils can be drained; the hard, dry, "barren" soils usually need only the application of vegetable matter, and perhaps some lime and phosphorus, to make them fertile once more. All these are things the individual farmer can do. It all sounds simple and easy, and in one sense it is, but when it is remembered that the poor lands are in the hands of millions of men and that each man is free to do what he chooses, or what he can, with the land he owns, it does not look so simple.

When one thinks of what has been done case after case with soils once thought hopelessly poor, or when he thinks of the increase among thinking men of the knowledge of the soil and its care, it is likely to grow optimistic. The fact

remains, however, that there are farmers all the time reducing the fertility of the lands they tend, and that any increase in the average acre production of the staple crops can be more than accounted for by improved methods of tillage, better seeds, and the increased use of fertilizers. As a people we are still robbing the soil instead of fattening it.

Change must come through two means. The first and greatest, of course, is the continued and continuous education of the farmers—and of all other men—in the methods and practices of soil building. The next generation of farmers should grow up understanding humus and plant foods and soil texture, the use of lime, and the place of legumes in the rotation just as well as they understand the multiplication table. We have talked so much about teaching



Spraying the Garden

these things that we sometimes imagine we are doing it. The fact is, we have scarcely made a beginning.

In any case, it is time for us as a people, and especially for us as farmers and fruit growers, to realize that soil depletion is a very real and a very serious menace to our future, and that the making of new and productive fields out of the old and unproductive ones is the greatest and most needed constructive work of our time.

Ruth Ainslee's Way
By Minnie D. Dutton

Mrs. Murray had "dropped in" for a little friendly chat with her near neighbor, Mrs. Ainslee. Ruth, a winsome maid of eighteen summers, was sitting on the porch, preparing strawberries for the evening meal.

"Where did you get such nice berries?" inquired the caller for she knew the Ainslees had never had a strawberry patch.

Ruth blushed as she replied proudly: "I raised them."

"Raised them, where?"

"Well, there was a little place back of the garden where nothing except Spanish needles had grown since I can remember. The hired hand helped get the ground ready and I did the rest of the work myself. We've had several nice dishes of them besides I've preserved a few for winter."

"Yes," put in Mrs. Ainslee, "Ruth has been planting things in the most unheard-of places. Just come by the smokehouse and see her currant bushes," and she led the way along the stonepaved path.

"Well, I never," exclaimed Mrs. Murray, "who'd ever thought of planting currants here, and how full they are! Now, if Ruth has more than she wants, sister Belle will take all she has to spare and she is willing to pay a good price too."

"Ruth has set peach, cherry and plum trees in almost every little waste piece of ground close to the house. She has a fine row of raspberries along the orchard fence."

Mrs. Murray was silently thoughtful for a few minutes, then she said:

"There are quite a number of little niches and corners on our farm so located they will never be seeded to other crops that might yield quantities of delicious fruit. Come to think about it there must be thousands of acres of land taking the country over whose annual growth is worse than useless weeds. We

are paying taxes on this land and paying out hard-earned money for the fruits it could be easily made to yield. I'm going home and get my catalogue and select some fruits that can be set this fall and get them started as soon as possible. In the spring I will get more."

"Good," cried Ruth, who had followed unobserved. We'll race for results."

If you would succeed, save. I consider the saving habit to be almost the greatest element in making for a young man's success. It gives him determination and steady purpose and soon introduces system and foresight into his life. These together form the indispensable ground work of success.—Marshall Field

Whatever we plant needs attention. It must have good tillage no matter how good the soil may be if the best results are reached.

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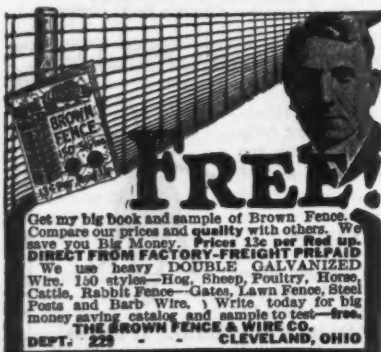
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When Mr. Muldoon entered the kitchen, the stout, curious neighbor who had brought the newspaper scuttled heavily out of the back door. Mrs. Muldoon looked at her husband with eyes that were half frightened, half accusing, and read in a trembling voice: "Died, on April 14, Rosaleen, only child of Robert and Mary Muldoon. New York, Chicago, and San Francisco papers please copy."

"You—you know she's not dead," quavered Mrs. Muldoon. "I'd a letter from her this very morning of the world."

"She's dead to me, and that's Heaven's truth," replied Mr. Muldoon. He snapped his jaws together, drew a chair up to the table, and sat down to his dinner. "Now that Rosaleen's dead, I'm glad that we can go back eating in the kitchen," he said; "and she won't be after interfering with my fishing any more, now she's dead."

"I won't hear that word," cried Mrs. Muldoon; "I won't. She'd as good a right to run off with Jimmy Bailey as I had to run off with you—and my father had no queer actions about it, either, God rest his soul! And for why should New York, Chicago, and San Francisco papers copy? We have no neighbors there."

Muldoon showed something of the author's pride.

"It reads more completer-like," he said; "and then, when Rosaleen sees that I've paid ten cents extra like that she'll not have a doubt in the world that she's dead."

Mrs. Muldoon sighed helplessly. Her plump face was meant for pleasant lines, and distress sat almost grotesquely in her blue eyes.

"That I had never seen this day!" she said. "And not a word to be breathed against the young man, barring he's poor!"

"He's a thief for taking Rosaleen," returned Muldoon. "She'd no call to leave us. I'd made up my mind she was never to marry. Marriage is well enough for men, but it's a poor business for women. You'll be wearing your black dress hereafter, Mary."

"I'll be doing nothing of the kind," blazed Mrs. Muldoon. "I'll put on red ribbons, if anything, to think my child's found a good man who will care for her when I'm gone. You'll change your mind, awic," she added coaxingly, "when you see how happy Rosaleen is!"

Muldoon looked at her in elaborate surprise.

"What do you mean, woman, dear?" he asked. "You can't bring back the dead at all, at all. Pass the cabbage."

Mrs. Muldoon stared at him in fascinated silence. Then she pushed the cabbage-dish toward him, rose hastily, and went to the shelf over the sink where lay her daughter's letter. She read it over, and then said defiantly:

"Dead, indeed; she's twice as alive as you are, and has more love left for you nor you deserve!"

II

During the rest of the summer Muldoon was seen with a grim face and a piece of crape sewed upon his sleeve. Always a devoted fisherman, he went more frequently than ever to the steep-banked little river at the end of the town, and sat there by the hour, his long lines in the water, and thoughts of Rosaleen, which he would not admit, knocking for entrance at his heart.

His manner repelled any questioning from his neighbors, but Mrs. Muldoon was quite willing to sate their curiosity after her own fashion. When their interest died down she got some comfort from taking the point of view of her husband.

"Just four months since Rosaleen died," she sighed one day.

"Humph!" he grunted.

"I don't rightly remember how the funeral went, Robert," she continued. "Lots of the neighbors sent flowers, didn't they?"

Muldoon looked at her uneasily.

"I'd not be putting my mind on the details," he said. "The loss ought to be enough for to occupy you."

"Ah, dear, ah, dear!" she sighed. "It does. Have you thought of the tombstone yet, Muldoon?"

But at this her husband thrust his pipe into his pocket, got his fishing tackle, and left the house.

When he was again on pleasant terms with her, he asked:

"What all were you doing in that cottage next door this morning?"

"Was I there, then?" she inquired innocently.

"You mean, 'Did I have the luck to see you, then?'" he returned.

"Well, I believe I did step in. They say some people from another town are moving in, and I thought I'd take a peep. They've had it papered real pretty. The parlor and one bedroom has that pattern of rosebuds you like so much."

"Well, I suppose they've got the good right to rent and paper as they please," said Mr. Muldoon, "but I'm used to not having neighbors on that side. I mistrust the woman'll be taking your time, and the child'll tramp all over our garden. I'll have the law on them if they do."

"I think I've heard there are no childer," said Mrs. Muldoon. "I'll ask, if you like."

"I've no curiosity at all," said Muldoon. "You needn't try to make me your excuse for prying into the neighbors' affairs."

In a day or two furniture and boxes began to arrive for the little cottage. Whenever Muldoon was well on his way to the river his wife hurried next door and worked hard at setting the little home in order.

"New people come in yet?" asked Muldoon casually, a day or two later.

"They have," replied Mrs. Muldoon; "real nice young people they are. They asked us to drop in, and I said we were getting on in years and liked our own home, but for them to drop in on us. Was that all right?"

It was so rare for Mrs. Muldoon to ask her husband's approval that he forgot to question her as to the name of the neighbors, instead saying warmly:

"Sure, yes, Mary."

III

Presently a brisk knock sounded on the kitchen-door. Mrs. Muldoon called "Come in" rather nervously, and Rosaleen entered, followed by Jim Bailey. They were tall, handsome, fresh-faced young people, blue-eyed and brown-haired, and both apparently well at ease.

"Good evening, Mrs. Muldoon," said Rosaleen. "Is this your husband?" She advanced to her dazed father and shook his limp hand. "I'm Mrs. Bailey," she said, "and this is my husband. We hope you're going to let us be real neighborly."

"Sit down," said Mrs. Muldoon hospitably. "Are you quite settled, Mrs. Bailey?"

"Well, not quite," answered Rosaleen. "I am obliged for your help. Your wife has been very kind, Mr. Muldoon."

Muldoon made no reply, and Rosaleen continued:

"My husband has come here in the lumber business. An uncle died and left him enough to set up for himself."

"Well, that's real nice," said Mrs. Muldoon. "Do you think you'll like it here, Mr. Bailey?"

"Sure I will," returned Bailey; "I used to live here."

"Did you so?" asked Mrs. Muldoon politely.

"So did I," replied Rosaleen, "before I was married. I was quite fond of the town, and especially of the river. My father was a great fisherman, and he used to take me with him. I didn't live then in this cottage we have taken. It was on this same street, though."

Muldoon choked. Then he asked:

"Got any children?"

Rosaleen blushed as she replied:

"No; we haven't been married long."

"Our only daughter died on us," remarked Muldoon.

"Sure, that's too bad," said Rosaleen. "I saw the crape on your arm. Well, we all have our bad luck, Mr. Muldoon, and sometimes it turns to good."

"Maybe, but nothing can change death," said Muldoon. "You don't expect people to come walking back from the grave, and you wouldn't welcome them if they did. Will you smoke, Mr. Bailey?"

There was a slight pause which Rosaleen adroitly filled in by setting her husband to talking on politics. As he and Muldoon were agreed in their opinions, they were soon

amicably engaged in abusing half the great men of the nation.

"Well, they seem nice young people," remarked Mrs. Muldoon when the callers had gone.

"I like the young man well enough," said Muldoon. "The young woman seems to me a bit too free with her tongue. A woman should let her husband do a good half the talking."

"Well, I'm sure—" began Mrs. Muldoon. Then she stopped and added, "Don't forget to wind the clock."

The Baileys fell into the habit of calling almost every evening on the Muldoons. Mrs. Bailey explained that the older couple seemed more like home-folks than any one else she had met.

Muldoon played his part of the game with a kind of stiff enjoyment. His attitude was one of liking for Bailey and toleration for Mrs. Bailey. As the winter wore on and she came less frequently he made no comment on her absence. Even when Mrs. Muldoon began to spend her evenings in the Bailey cottage he asked no questions, but read his paper alone, glancing now and then at the lights in the windows opposite. One night his wife did not return, and he sat in the kitchen, the fire out, his dead pipe on his knees, and his gray head bent as if listening. When she came home in the dawn, he straightened up briskly, and said, yawning as if he had just waked from a refreshing sleep:

"Sure, Mary, I've fell asleep waiting for you. 'Tis late you are. Was there sickness in the cottage?"

Mrs. Muldoon gulped, and then said, sobbing:

"'Tis a little small boy, and 'tis you are the hard-hearted man, Robert Muldoon, to be treating your own daughter so. Won't you go in and see her?"

"I don't understand you," replied Muldoon. "My daughter is dead. You'll have to carry me in, if ever you get me across that threshold. Did you say Mrs. Bailey has a young son?"

Mrs. Muldoon pulled herself together.

"I'm going to bed," she said angrily.

"You'll get your own breakfast, if you want it."

"Did she happen to say what she'd call him?" asked Muldoon.

"Yes, she did," replied Mrs. Muldoon, with a kind of angry affection. "I'll get you some coffee now, you contrary old man, and then I'll take myself to bed. She's going to call it Robert Muldoon Bailey, after some relative or other of hers."

Muldoon got his fishing tackle and departed, without breakfast, for the river. The chill spring wind whistled through the bare boughs, the cold ground chilled him, and he held his badly cast lines languidly. He stared at the steep bank opposite, but instead of struggling young grass he saw Rosaleen as a pink little baby, and he wondered what she must look like at this moment—white, sick Rosaleen, with her own pink baby on her heart.

IV

After a few weeks, there were five who met in the Muldoon kitchen. Before long Muldoon proposed that they spend their time in the sitting-room.

"I've not used it since my daughter died," he explained to Rosaleen; "but there's a sofa there on which your young son might lie while he's asleep, Mrs. Bailey, and there pictures he could be looking at when he's awake."

"Sure, he's too little to look at pictures," said Mrs. Muldoon.

"Well, he's a terribly observing baby," defended Rosaleen. "I think Mr. Muldoon's right about it and he would notice pictures. His eyes are that quick! They remind me of my father's, who was a terribly observing man. Yes, we'll go in, Mr. Muldoon. It'll be better for you, too; the chairs there are more comfortable, and you are a little stiff since you caught that rheumatism fishing this spring when it was too early. Just like my father; he'd fish under a soaking rain!"

Muldoon carried the baby in himself. It was the first time he had ever touched the child, and he walked with it as carefully as if he were blindfolded. Although he placed it with its head too low, Rosaleen said:

"Sure, you are very handy with the boy, Mr. Muldoon. I feel he'll take a terrible fancy to you when he's older, and I do hope you won't let him bother you."

Muldoon only grunted, and for the rest of the evening he displayed an irascible temper.

except when his eyes rested on little Robert Muldoon. It was an unpropitious time for Rosaleen to invite him to come and see them. "Do," she urged. "You've never crossed our threshold."

"I never go anywhere but home," he replied. "I'm too old to go to strangers' houses."

Rosaleen paled a little, but she said bravely:

"Well, little Robert will come to you, then. You see, he's too little to understand that we're strangers. He has no more sense than to love you as if you were related."

Thereafter, Muldoon's official attitude toward young Robert was that of remembering him only when he saw him. But as the months passed and as he fished silently by the river, his most confidential companion, he wove dreams of the future of the little Bailey child. He bought a small fishing-rod, that he might begin early to teach the child to fish. And sometimes he almost saw a pink little figure by his side, hauling in a fish with chubby, eager hands.

Young Robert was dumb until he was about two years old, and then, within a week, he divulged a vocabulary. One spring day Rosaleen came flying into the orchard where Muldoon and his wife were inspecting their probable autumn crop.

"Just listen to what he says," she panted. "Who's that, baby?"

"Gamma," replied young Robert.

"And that?"

"Gamma; me go gamma," said young Robert, struggling out of his mother's arms.

"You'll excuse the liberty, won't you?" asked Rosaleen politely of Muldoon. "I never taught him; he just picked it up of himself, unless one of the neighbors did it on the sly. If you object, I'll make him stop."

"Sure, why should I care, Mrs. Bailey?" asked Muldoon. "It would be hard to expect a baby to say 'Mr. Muldoon.'"

"It's queer the little fancies they take," went on Rosaleen.

"He likes 'it over here better than he does at home. I'm afraid he'll spoil your flowers, Mr. Muldoon."

"Well, wait till I complain, Mrs. Bailey," said Muldoon. "Come on, Bobby; grandpa will take and show you the river where you're going to learn to fish."

V

The two families seemed adjusted to their new arrangement, but in reality they were not. Bailey said he objected to playing-acting, Rosaleen said she found it hard to be polite, while Mrs. Muldoon remarked frankly that it went against her grain to have to treat Rosaleen as a neighbor instead of as a daughter whose duty it was to take her mother's advice. Muldoon did not express himself, but he felt a sympathy among the other three from which he was excluded. And besides, in his third year young Robert had taken to aping his mother, and was now calling him Mr. Muldoon.

Their relations were finally settled on the day when Muldoon first took young Robert on a fishing trip. Rosaleen let the child go with some trepidation, recalling her own mother's fears when Muldoon had taken her on like excursions. The two set off, and Robert looking down to catch the monologue of young Robert, looking up. When they reached the high river-bank, Muldoon selected a safe spot for his grandchild, and then put a rope about the plump little body.

"I'm fishing for you, Bobs," he explained, and so I have a line about you, and you fish for the fish."

The explanation satisfied young Robert, and the fishing proceeded—volubly. After a time young Robert showed that he had a fisher's sense, for he stopped talking, and sat quietly watching the lines. Muldoon glanced at him approvingly.

"The real thing," he thought. "It's just in his bones."

At last a pull came at Muldoon's line.

He twisted the child's rope about his feet,

and began to draw in the catch. Little Robert showed his excitement only in his shining eyes and parted lips.

"You're a terrible smart boy, Bobby," his grandfather whispered; "and I'm going to give you this fish for your own."

Muldoon's luck was good, and presently the ardor of the fisherman grew upon him. He thought of some of his great catches in the past, and instead of the little quiet figure at his side, he saw long shining strings of silver spoil, the kind he used to catch when Rosaleen was a baby, and he himself was young. After a time, a tremendous tug came upon the line, and a great fish flashed into the air. Muldoon's willing eyes magnified it; it was the greatest fish that had ever been seen in that river!

He sprang to his feet, young Robert's rope slipping unheeded from his hand.

"Sit still, Bobby," he shouted, "and watch grandpa."

Back and forth he played the fish, his crippled hands slipping up and down the jerking line, his feet stumbling on the shiny clay and trampled grass. And back and forth little Robert's neck craned, following

the brink of the water.

Muldoon was swept down-stream, his last memory a confused blending of silver fish, pink blouse, a chubby, distorted face, and Rosaleen.

When he came to himself, he was in a strange room with a pattern of pink rosebuds on the wall. From the window he could see the well-known trees of his own orchard. Beside him sat his wife and Rosaleen, their faces tear-stained and anxious. He felt a stiffness in his left arm and leg, and a buzzing in his head.

"Is any bones broke?" he asked.

"Just two, *avie*," said his wife coaxingly; "and what's two little bones at all when you saved the boy?"

"You never were any good as a nurse," grumbled Muldoon feebly, "belittling a man's sickness that way. Where's young Robert?"

"Oh, I don't know, father," said Rosaleen wearily. "Some of the neighbors have him, I think. I couldn't have him here disturbing you."

"Where am I, anyhow?" asked Muldoon. "In Rosaleen's. Where else?" said Mrs.

Muldoon, with heavy playfulness. "You asked to be carried in some day, you know. Jimmy Bailey saved you out of the water. By chance he was there. You mustn't think Rosaleen sent him out because she was afraid you'd forget Bobby, for that wasn't it."

"Humph!" grunted Muldoon skeptically. He said nothing more for a long time. Then Mrs. Muldoon whispered tearfully:

"When they brought you back, Rosaleen she ran right past where Bobby sat screaming, and up to you where you lay on the stretcher."

"Did she so?" murmured Muldoon. Then he added, with a slow smile: "Is that Rosaleen there?"

"Yes, father, darling."

"Well, I've had the queer dream. I thought you were dead, and I'm real glad 'tis not so. When will you send for young Robert to come home?"

Plowing and Ditching on the Farm

By F. H. Sweet, Va.

In plowing a field, many persons make the mistake of plowing round and round in the same old way, year after year, until on all sides of the field there forms a ridge or high bank near the fence. The proper way is to plow a field with a back furrow, one side at a time and all around the field.

Strike a furrow about three or four paces or more from the edge of the fence, turning the mold-board of the plow to throw the soil from the outside to the inside of the field. Turn around and come back close to the furrow just plowed and keep going until you reach the fence or edge of the field. Do this on all sides just before you plow the center of the field. By the back-furrow method you work the ridge or bank away from the stone wall or fence, and you can get very close to the wall or fence, and this will also reduce the space for bushes or weeds to grow in, and is much easier to clear up.

Dig the ditch about 14 to 18 inches wide and 2½ feet deep. Take middling-sized stones and stand them up on end on each side of the trench, and cover them with larger ones, then fill it up within one foot of the top with smaller stones. This will leave a throat about 4 to 5 inches square. Fill in the rest of the hole with loam that comes out of the ditch.

To ditch a swamp in a very low place, dig the outlet first low enough to give the rest of the ditches a gradual descent, continue this ditch around the edge or near the edge half way, then take up at the outlet and dig the same as on the other side until you meet the head of the first half. Continue the main ditch up the middle of the swamp and branch off from this at right angles as the swamp may need to be drained. Digging around the edge first is done to cut off springs or watercourses that may come unseen.



The Lay of the Lilacs
Baltimore American

Let them stand aside—the deutzia, the jessamine, the burning bush, all other flowering shrubs whose early advent glorifies the blossom along the winding lanes of the village, that surprise the observer by their earth! Let them stand aside while the lilacs pass along the aisles of nature with the minstrels of the air singing their lays in salutation to the flower that makes spring incomparable. What are the vine-clad fields of France, what are the rose gardens of Bulgaria, what are the orchards of Western Maryland in comparison with the lilacs that bloom by the garden wall, that spring into panicles swung above the palings of the fence. There they are in the early burst of bloom, white and purple of varying shade of the latter color.

now the race of the line, now the silver body thrusting itself about in the silver water.

Little Robert began to show the excitement of the sport more actively. He forgot to sit still. He helped himself to his plump legs and ran after his grandfather. Then the rope that was to save him was his undoing. He tripped upon it, fell, and rolled down the steep bank, dropping with a splash into the water, just as Muldoon was landing the fish.

The fish fell back into the stream as Muldoon threw himself down the bank and plunged in after the child. The river was deep, and he could not swim, but he remembered nothing except that he had forgotten Rosaleen's baby.

Good fortune was with him, for as he sank, he knocked against the little rising body, and clutched it. When he rose, with all his strength he cast the boy upon the steep bank. And now the rope saved young Robert by catching upon a toothed root and holding him suspended a few inches above

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The Old Orchard

Green's Fruit Grower Co.:

Dear Sirs: Through the columns of your paper will you please advise me with regard to what to do with an old orchard. The trees are all in old sod and have been neglected for a number of years. Would it be advisable to plow or would too many roots be broken off? Should I dehorn the trees this year or would you remove only the dead wood the first year?—Louis W. Harris, R. I.

Reply: First, cut out all of the dead wood. If the apple trees are very high headed I would head them back six feet or more. Great injury can be done an old orchard that has been unplowed a long time by plowing deeply. Deep plowing cuts off myriads of roots that are near the surface. It is not absolutely necessary to cultivate the orchard, though cultivated orchards are the most satisfactory as a rule. Scraping the rough bark off of the trees with a hoe destroys the hiding places of many insects. If you have barnyard manure to spare it can be scattered around the trees as far as the branches spread.

New Books. "Strawberry Growing" by S. W. Fletcher, is an attractive book, just issued, of 317 pages, illustrated. This book is published by The Macmillan Co., 66 Fifth Avenue, New York City. The price is \$1.75.

The "Manual of Fruit Diseases" is the title of a book just issued, of 443 pages, by Prof. Lex R. Hesler and Prof. Herbert Rice Whetzel. This book is amply illustrated and is of great value to the orchardist. It is published by The Macmillan Co., 66 Fifth Avenue, New York City. The price is \$2.00.

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PATENTS

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Letter From Idaho

Editor Green's Fruit Grower: I am enclosing some views taken on my Greenwood fruit farm in the Kannah Valley, Idaho. I have taken your Grower over 20 years. I value it very highly. I came from the Chautauqua grape belt to Idaho in '99 and like it here very much. The winters are so mild, the soil so rich and moist, the water so pure that it is a lovely country to live in. I hope you will see fit to print some of these pictures. I have many friends in Western N. Y., that I would like to see them. —S. B. Onthank, Idaho.

Spring Work on Earth Roads

In maintaining an earth road in tolerable condition for spring traffic, the most important thing, say specialists in the U. S. Department of Agriculture, is to get the water away from the road and to keep it away. To get the best results, this should be done all through the fall and winter. But, in any event, it will pay the county in the early spring to have the road man go over the road daily to see that drains and side ditches do not become clogged. It is at this time, also, that the road drag can be employed to the best advantage. By clearing a roadway of slush and melting snow, it will prevent the water from soaking into and softening the sub-grade.

This work is especially important if the road has been neglected through the winter. Soil saturated with water expands greatly when it freezes. When it thaws out again, it has not only lost practically all its power of sustaining the weight of traffic, but it also is in a condition that enables it to absorb water readily and form mud.

Mud holes, in fact, are the cause of most of the trouble on clay or gumbo roads. To get rid of them, the first step is to dig a trench to the side and allow the water and mud to drain off. If necessary, the side ditches should be opened also. After this all of the soft mud left in the hole should be removed and the bottom of the trench filled with broken stone or coarse gravel in order to provide a drain that will prevent the further accumulation of water. Gravel, if available, is the best material for filling the mud hole. If none can be obtained, the best earth on hand should be tamped down in 3 or 4-inch layers. To attempt to fill a mud hole by throwing in large stones is fatal. It simply results in two mud holes instead of one. It is useless, too, to attempt to fill a hole without first draining out the water and removing the soft mud. The use of sods or similar material which absorb water readily is a waste of labor.

On earth or gravel roads ruts are best treated with the drag. The rainier the weather the most often the road should be dragged. A liberal use of the drag with a thin coat of sand or gravel spread over the surface when softened by rain will frequently put a poor earth road in such a condition that it can carry heavy traffic for a short time.

On the other hand, sand roads give less trouble in wet weather because the moisture tends to hold the separate grains of sand in place.

In addition to the pressing need for proper maintenance in order to keep earth roads passable under the unfavorable conditions frequently encountered at this time, road work is desirable in the early spring in order that the road may become thoroughly consolidated before the dry summer weather comes.

As has been pointed out, the addition of clay or gumbo to sand roads and the addition of sand to clay or gumbo roads improves the highway very materially. If this work is done during moist weather, the materials combine much more quickly. Again, if grading is put off until later in the season, the road will become very dusty in dry weather and will need additional attention later in the fall.

A Stoneless Cherry

George McMann, a horticulturist of Peabody, Kan., has announced that he has produced a stoneless cherry. He says that the improved fruit can be grown commercially and will become common within a few years.—New York Packer.

PEACH SCAB CONTROL

Injury to Commercial Peach Crop in Many Sections Can Be Successfully Combated by Spraying

Peach scab, which ranks next to the destructive brown rot in economic importance among peach diseases in the United States and which at one time seriously menaced the success of commercial peach culture east of the Rocky Mountains, can be successfully controlled at small cost by spraying, according to a professional paper, Bulletin 395, recently published by the United States Department of Agriculture. Self-boiled lime-sulphur and a solution of finely divided wettable sulphur, which is a mixture of superfine sulphur, glue, and water, have been proved by experiments to be the best of the known sprays in controlling the scab. The applications can be made in commercial orchards at an average cost not exceeding 5 cents a tree. In certain experiments carried on by plant specialists of the Department of Agriculture such spraying resulted in an increase in profits of about \$1.50 per tree.

The spraying for scab may be combined advantageously with treatment for other diseases, such as brown rot, and insect pests, such as the plum curculio. If this plan is adopted, the following spraying schedule is suggested:

Early varieties.—The early varieties, such as the Greensboro, Carman, Hiley, and those

(pound) in 50 gallons; stone lime, 2 to 3 pounds in 50 gallons; self-boiled lime-sulphur, 8 pounds of lime, and 8 pounds of flour of sulphur in 50 gallons; and finely divided wettable sulphur, 5 pounds in 50 gallons in the case of the paste (approximately 50 per cent sulphur) used in the foregoing experiments.

"Do you believe that egotism and genius go together?" "Not always. There would be a lot more genius if they did."—Boston "Transcript."

Old Gotrox—"Has my daughter given you any encouragement, sir." Suitor—"Well, she said you were always a generous parent."—Boston "Transcript."

Britons Destroy Young Pigs

Because of the high cost of feeding-stuffs farmers have been destroying litters of young pigs at birth, much to the dismay of a government agricultural committee, which has been conducting a campaign to induce stockraisers to help ward off a pork famine. Farmers defended their action with the statement that the government was allowing export of meal to Holland which ought to be kept in this country. The consequent increased price of feeding pigs, the farmers contended, made it impossible for them to make a profit on their pigs.

The Factory!

Grim, stern and smoky it stands against the sky. Its high stacks seem to seek the clouds. The streaked roof is framed in an atmosphere of smoke and steam.

The whirl of the wheels fills the air. Busy hands are moving under the direction of keen-cut eyes. The faces of the workers reveal a tenseness of purpose, knowledge of the craft and serenity with well done.

This is the factory. Perhaps it has made the town. Usually it has, for, as Mr. J. LeRoy has well said, "Over the gate to growth and glory of every city must be inscribed the words, 'A monument to them who buildeth factories here.'"—Leslie's Weekly.

Growing Asparagus

Asparagus requires a deep, rich, moist, cool soil, with a warm exposure. Sandy soils generally produce straighter stalks and the best grades of grass.

Asparagus originally grew in rotten sea-weed on the shore and is a gross feeder, therefore, the soil cannot be too rich. Sub-soiling is valuable for asparagus. Formerly it was thought that salt made a good fertilizer but salt is no longer used in that way. Salt is used to kill down weeds, by saving cultivation.

If the land is hard and coarse, prepare it by planting with a crop that needs much tillage—corn, potatoes or cabbage for two seasons before planting asparagus. During this time apply all the manure that can be spared. Beds may last 20 years, no first attention to the soil is valuable. commercial bed lasts from eight to ten years, and the new bed is started two or three years before the old bed becomes profitable.

The site for the asparagus bed in family garden is preferably a long narrow strip, say 75 to 100 feet, at the rear of the garden. This place is out of the way of other crops and at the same time will give a pleasant background in summer and fall, for the herbage of asparagus is ornamental.

Asparagus roots can be bought of nurseries, men, and can be planted as late as June 1st, but the earlier planted the better.

Worth Trying

The small boy stood at the garden gate and howled and howled and howled. A passing old lady paused beside him.

"What's the matter, little man?" she asked in a kindly voice.

"O-o-oh!" wailed the youngster. "Papa won't take me to the pictures tonight."

"But don't make such a noise!" the dame admonishingly. "Do they take you when you cry like that?"

"Sometimes they do, an'—an'—an'—times they d-d-don't!" bellowed the youngster. "But it ain't no trouble to yell!"—Amos.



Children are naturally interested in farm animals, the chickens, the ducks, the doves, the pigs, the lambs, sheep, cows, calves and horses. Indeed these are interesting objects for anyone to study and to make pets of.

with similar ripening periods should be sprayed as follows:

(1) With arsenate of lead and lime about 10 days after the petals fall. This application may be omitted in sections where the curculio is not a serious factor.

(2) With arsenate of lead and self-boiled lime-sulphur or finely divided wettable sulphur about a month after the petals fall. If the latter type of fungicide is used, the addition of lime, as in the first treatment, may be a desirable precaution against arsenical injury.

(3) With finely divided wettable sulphur or self-boiled lime-sulphur three to four weeks before the fruit ripens, but not less than four weeks before harvest if self-boiled lime-sulphur is used. This application may be omitted in sections where brown rot is not seriously injurious.

Midseason varieties.—The treatment recommended for early peaches is applicable, likewise, to midseason varieties, such as the Reeves, Belle, Early Crawford, Elberta, Late Crawford, and Fox. For such varieties, however, the third application is very essential and should not be omitted where brown-rot or scab injury is serious.

Late varieties.—The Salway, Heath, Bilen, and varieties with similar ripening periods should be treated as midseason varieties, with the addition of an application of the fungicide alone about a month after the second treatment.

The following concentrations of spray preparation are recommended: Arsenate of lead paste, 1½ pounds (powder, three-fourths

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FT-500—Galvo 1/2 ply......70 per roll

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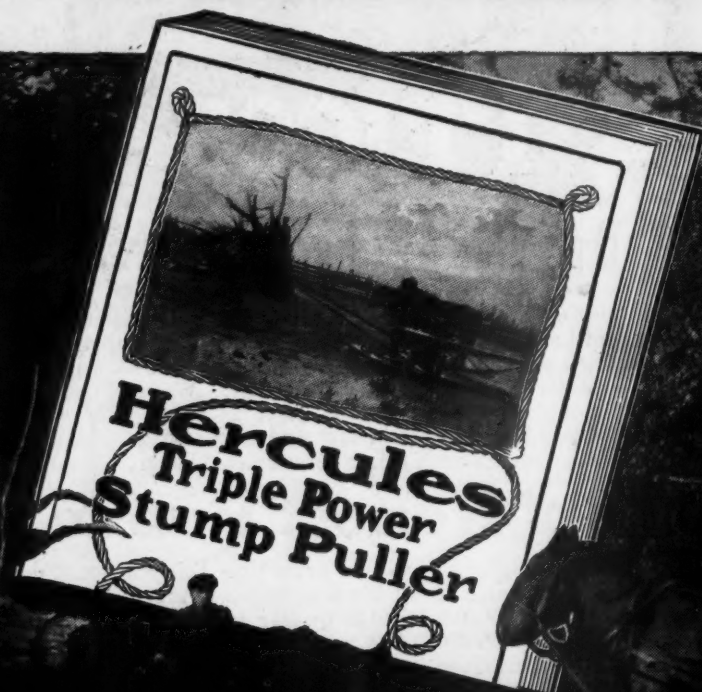
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